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Worldwide Report

**NUCLEAR DEVELOPMENT
AND
PROLIFERATION**

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21 October 1985

WORLDWIDE REPORT
NUCLEAR DEVELOPMENT AND PROLIFERATION

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WORLDWIDE AFFAIRS

PROBLEMS FACING NPT REVIEW CONFERENCE EXAMINED

Paris LE MONDE in French 27 Aug 85 pp 1, 3

[Article by Bruno Dethomas: "Great International Nuclear Muddle"]

[Text] Representatives of some 100 countries are to meet again in Geneva on 27 August to review--as they do every 5 years--the working of the Nuclear Nonproliferation Treaty (NPT) and consider its possible reform. As a nonsignatory of the NPT, France will be absent from this conference. It will not even send a few Atomic Energy Commission officials in the guise of reporters to observe the deliberations as it did in 1980.

Nobody expects anything to emerge from this conference except strong protests from Third World countries against the increasing discriminations in the treaty's implementation and against that "vertical" proliferation* whereby the superpowers have built up their intermediate-range and long-range nuclear arsenals. The fact is that by signing the treaty, the superpowers committed themselves to pursue negotiations in good faith "on general and complete disarmament". Yet the United States and the USSR have scarcely lived up to their obligations. This situation will prompt neutral as well as nonaligned nations to intensify their efforts to obtain a general treaty that would ban all nuclear tests.

The old problem of how to reconcile nuclear development with nondissemination of weapons-making technologies is more current than ever. When the TNP, the international legal instrument of nonproliferation, was signed on 1 July 1968, 12 countries were generating electric power from nuclear reactors. At the present time, 14 other countries have been added to that list, including several nations that have not signed the NTP, namely Spain, India, Pakistan, Argentina, Brazil, and South Africa. Moreover, three others--Mexico, Philippines, and Cuba--are expected to join the club within the next few months.

* It was the Indian physicist Homi Bhabha who, during discussions preparatory to the NPT, introduced the distinction between "horizontal" proliferation, or an increase in the number of countries possessing nuclear weapons, and "vertical" proliferation, or a build-up of their nuclear arsenals by the five nuclear-armed powers.

One must acknowledge, however, that this treaty has had considerable success. Based on a distinction between the five nuclear weapon powers as of 1 January 1967--United States, USSR, Great Britain, China and France--and the other powers, the treaty gave the latter, in exchange for forgoing the military nuclear option, nondiscriminatory right of access to the peaceful uses of atomic energy contingent upon acceptance of International Atomic Energy Agency (IAEA) inspection safeguards. This treaty has now been ratified by some 130 nations. And whereas in the late 1960's, it was widely feared that 20 or so countries were capable of developing nuclear weapons by the 1980's, only one--India in 1974--has actually been able to explode a "peaceful" nuclear device. Meanwhile the most advanced industrial countries had admittedly drawn the proper inferences from the Indian experiment and strengthened controls over a series of materials and equipment by means of the 1977 "London guidelines" subsequently adopted by all European countries at the Dublin summit in September 1984.

Despite the fears of an energy shortage in the 1970's--which at that time appeared more alarming than proliferation--and likewise despite the more intense competition since the early 1980's among manufacturers vying for a declining energy market, no significant violation of IAEA safeguards has been detected. The last reported violation was the illegal sale of depleted uranium to Israel by some Luxembourg firms.

Why, therefore, are there seemingly greater misgivings today than there were a few years ago? To say nothing of the mounting apprehension about the spread of terrorism. The fact is that IAEA inspectors can only go where it has been agreed that they should go. Not one of the countries considered likely to secure nuclear weapons in the next few years--if they do not already have them--has signed the NPT. These countries are Israel, South Africa, Pakistan, Brazil, and Argentina. For instance, Argentina announced in 1983 that it had built a uranium enrichment plant capable of being used for military purposes. It should also be noted that Argentina is going to build a research reactor for Algeria, another country that has not signed the NPT.

As for Pakistan, it is continuing to do its "nuclear shopping" despite a few rebuffs. For example, in 1980, the Canadian authorities prosecuted three men for unlawfully exporting to Islamabad electronic components purchased in the United States and capable of being used in producing a bomb. And in June 1984, Nazir Ahmed Vaid, a Pakistani, was arrested while buying 50 krytons, a type of device that can be used to trigger a nuclear weapon. Lastly, reliable sources in France state that these past few months, Pakistanis were still trying to obtain high-strength steel with special toughness and resistance properties for use in a high-speed centrifuge (see last three paragraphs of this article).

Another reason for the current misgivings is the present disagreement among exporters of nuclear technology. With the passage of the Nuclear Nonproliferation Act on 10 March 1978 at the urging of President Carter, the United States did, in fact, approve tighter export controls in an effort to shut down "the plutonium economy." This legislation imposed full-scope inspection safeguards whereby sensitive materials and equipment would be sold solely to nations agreeing to place all of their nuclear facilities under international control.

The very excesses of these measures produced an effect opposite to that sought by President Carter. By rejecting these new rules--which furthermore were retroactive--the United States' customers had to quickly find new suppliers. To obtain enriched uranium for its Koeberg reactors, South Africa resorted in 1982 to a complicated supply channel via some American brokers, a channel from which France was not altogether absent. To fuel its Tarapur power plant which provides electric power to Bombay, India purchased its enriched uranium from France. By threatening not to receive President Mitterrand, Indian authorities even got him to agree, in November 1982, that possible control of this fuel beyond the year 1993 would be negotiated at a later date. This agreement singularly stretches the provisions of the NPT, especially as these negotiations have still not begun!

Although France, like China, has not adhered to the NPT and has advanced explicit reasons for not doing so--the discrimination it imposes and the connection it makes between nonproliferation and disarmament--France has always let it be known that it would behave as if it had actually adhered to the treaty.

Yet this policy has not prevented France, regardless of what political parties may be in power, from being one of the most "proliferating" countries. Much before the NPT, Israel was able to build a research reactor at Dimona starting in 1957 thanks to French support, just as Iraq did at Tamouz some 20 years later. And it took some powerful pressure from Henry Kissinger to prevent Giscard d'Estaing from selling a fuel reprocessing plant to Pakistan, a project for which all contracts had already been signed. An international arbitration body is expected to rule shortly on this matter and will very likely decide against the French manufacturers involved and charge them with breach of contract.

Even though these contracts were deemed "proliferating" by the international community, they were, nevertheless, in full conformity with the NPT and--for the more recent contracts--with the "London guidelines", a fact which shows that these antiproliferation defenses are not totally paralyzing. President Reagan who retained the essence of President Carter's policy--transforming "full-scope safeguards" into "comprehensive safeguards" nonretroactively--seriously attempted, but in vain, to have the other suppliers adopt his policy. Furthermore, to the notion of rule and control, Reagan added the more dubious concept--Iran was proof thereof not long ago--of "secure countries" and "insecure countries." Implementation of this concept was seen in the pressure Reagan exerted on Belgium last October to block the sale of a reactor to Libya.

In response to this unilateral American policy--an obvious retreat from the policy followed during the preceding decade--many countries have argued that it violated the NPT and its Article 4 which guaranteed the transfer of nuclear technology. Thus to all intents and purposes, the world is embroiled in a nuclear muddle.

There is without doubt no moral justification for the treaty's basic discrimination, for this "veritable Yalta," but almost all countries in the world concur in the treaty's objective. Hence it is especially urgent to arrive at an international consensus because in 1995 a conference is to be held to decide whether to extend the treaty.

Two Approaches to Building the Bomb

Uranium-235 and plutonium can equally be used to produce an atomic weapon. The Hiroshima bomb contained enriched uranium and the Nagasaki bomb plutonium. The latter is obtained by irradiation of uranium-235 in a nuclear reactor. That is why, for example, the Pakistanis had sought to obtain an irradiated fuel reprocessing plant from France.

After France's refusal, the Pakistanis turned to the other approach, namely uranium enrichment. This separation of uranium-235 and uranium-238 with which it is mixed, can be done by several processes, including the gas centrifuge process in which the heavier uranium-238 separates from the lighter uranium-235 and concentrates on the outer wall of the centrifuge.

In 1979, a Pakistani metallurgical engineer, Dr Abdel Kadher Kahn, disappeared from the Netherlands where he had been working since 1971 in the laboratory of a URENCO [Uranium Enrichment Company] subcontractor. He is said to have been working on the high-speed gas centrifuge uranium enrichment process being developed by the URENCO consortium composed of the Netherlands, Great Britain, and the Federal Republic of Germany.

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CSO: 5100/44

AUSTRALIA

BRIEFS

PROTESTS DELAY YELLOWCAKE LOADING--Darwin, Australia, 24 Sep (AFP)--Six Greenpeace protesters were arrested here today after chaining themselves aboard a ship being loaded with uranium yellowcake, a Greenpeace spokesman said. The spokesman said the six protesters boarded the British vessel "Clydebank" in a pirate-style operation, then chained themselves to the mast and other strategic installations. Loading was delayed for two and a half hours while police cut the protesters free. Earlier in the day loading was held up for over an hour when a waterside worker climbed on to a container and brandished a sign saying "No uranium sales to France." [Excerpt] [Hong Kong AFP in English 0628 GMT 24 Sep 85 HK]

NUCLEAR USE, TRANSFER SAFEGUARDS--Australia has made a strong call for the upgrading of the level of safeguards on the use and transfer of nuclear materials. The proposal, put forward at the Geneva conference to review the Nuclear Nonproliferation Treaty, called for a higher level of political commitment by all countries to follow a new practice in regard to safeguards and conditions on uranium exports. The current review is the third in the 16-year history of the treaty. The leader of the Australian delegation, Mr Duncan Campbell said that since the last review 5 years ago, Australia had engaged in a protracted debate about its own role. He said Australia would continue to be a responsible supplier and that its contribution to the nonproliferation treaty was to be strengthened. To ensure the future effectiveness of the treaty, Australia has put forward a 3-point proposal which seeks to emphasize the importance of treaty membership, the significant role to be played by countries which have no nuclear weapons, and their acceptance of international safeguards on their peaceful nuclear activities. [Text] [Melbourne Overseas Service in English 0130 GMT 11 Sep 85]

CSO: 5100/4301

BULGARIA

NATIONAL ASSEMBLY DEBATES NUCLEAR ENERGY BILL

AU032248 Sofia BTA in English 1808 GMT 3 Oct 85

[Text] Sofia, October 3 (BTA) -- The Bulgarian members of parliament have started the debates on the bill, introduced by the Council of Ministers, on the use of nuclear energy for peaceful purposes, at the session of the National Assembly, which was opened today. The bill envisages the establishment of a total order of management and safety control of nuclear energy.

Nuclear power has become one of the main sources of energy in Bulgaria, noted Mr. Nikola Todoriev, minister of power generation.

He stated that the "Kozloduy" nuclear power station has up to now produced 84 thousand million kw hours of electricity. The station has now a total output of 1760 million watts, and two additional power blocks with an output of 1000 million watts each will soon be added to it. Preparations are under way for the construction of a second nuclear power station with a total output of 6000 million watts.

According to plans, nuclear power generation will provide 60 percent of the country's electricity in the year 2000. Its relative share is now nearly 30 percent.

Minister Todoriev emphasized upon the fact that Bulgaria is fulfilling her obligations stemming from international agreements and conventions, the most important of which is the Nuclear Arms Nonproliferation Treaty. Bulgaria is an active member of the international agency on nuclear energy and is maintaining a close cooperation with the U.S.S.R. and the other C.M.E.A. member countries.

The state is the owner of the nuclear material and equipment. It controls their physical protection and the use of the nuclear energy.

The carrying out of the state policy in the field of the nuclear power usage is entrusted to the Committee for Usage of Nuclear Energy for Peaceful Purposes. In connection with this a new consultative council is established with the committee on the questions of nuclear and radiation safety with the wide participation of scientists, specialists and public figures.

The bill envisages that the Ministry of Public Health, the Committee for Preservation of the Environment and the Bulgarian trade unions should exercise specialized control along with the state control.

Up to now the public relations in connection with the usage of nuclear power for peaceful purposes were regulated by the decree on the state control on nuclear safety, some separate orders in the people's health law and some normative documents of the Ministry of Public Health, the Ministry of Energetics, the Committee for Preservation of the Environment, some recommendations of international organizations, etc.

The opinion of the Legislative Commission with the National Assembly is that such a law is necessary and that is why it unanimously supports the bill. The main reason for the passing of the bill is the necessity for establishing complete normative order for the usage of nuclear power for peaceful purposes in accordance with the international obligations undertaken by the P.R. of Bulgaria.

The bill has been unanimously supported by the speakers as well. All of them stressed on the principled position of Bulgaria embodied in the bill. Special attention has been paid to the priority placed on people's health and non-pollution of environment over the national economy and other public needs, in the bill.

Mr Zhivko Zhivkov, member of parliament and chairman of the Committee on the Preservation and Reproduction of the Natural Environment with the State Council, noted that the Bulgarian nuclear power generation is of a high technological and ecological standard, which guarantees an exceptionally high level of radiational safety.

He noted that Bulgaria ranks sixth in the world in the nuclear energy for peaceful purposes use per person of the population index, after the U.S.S.R., the U.S.A., Canada, France and Great Britain.

Mr Radoy Popivanov, minister of public health, dwelled upon the use of nuclear energy in the national economy: industry, power generation, agriculture, and its ever increasing penetration in the sphere of the services, in the health system in particular. The degree of the employment of nuclear energy for peaceful purposes, he said, is turning into one of the most important criteria for the determination of a country's development.

Mr. Radoy Popivanov noted the requirement, envisaged in the bill, to use medical competence in the control over the use of nuclear energy. This will provide an efficient protection of the population.

CSO: 5100/3002

BULGARIA

PARTY DAILY COMMENTS, REPORTS ON GENEVA CONFERENCE

Goals of Geneva Conference Supported

Sofia RABOTNICHESKO DELO in Bulgarian 27 Aug 85 p 5

[Article by Radoslav Khristov: "Nuclear Non-Proliferation: the Goal of all Humankind"]

[Text] Today in the Palace of Nations in Geneva, the Third Conference for Review of the Nuclear Non-Proliferation Treaty begins. All the societies of the world will follow its course with extremely great interest. To a certain degree, the results of the conference will determine the future of the treaty, which is seen as the basis of all activity in the area of nuclear disarmament.

Under current international conditions, when the struggle to avoid a nuclear war has become a primary concern, the significance of the treaty is extraordinary. For more than 15 years now the treaty has successfully brought about a limitation of the nuclear threat through the realization of its major task: preventing the spread of nuclear weapons to other countries, decreasing the likelihood of a regional nuclear conflict. This has been achieved by the obligations taken on by the member nations: generally speaking the nuclear states are not giving over nuclear weapons and the materials, equipment, and technology for their production, and the non-nuclear states are not creating or acquiring such weapons.

The nuclear non-proliferation treaty has gained worldwide recognition. Around 130 nations participate in it now, the greatest number of member nations for any existing treaty in the area of disarmament. The constantly growing number of non-nuclear nations participating is clear evidence of the fact that the non-proliferation treaty as a whole responds to the interests of all nations in the world.

One of the tasks of the review conference in Geneva is to influence, with its resolutions, new nations to join in the treaty, for gradual universalization of its international scope. Especially important is attracting the so-called "near-nuclear" nations, which already possess a nuclear-technological potential for independent production of nuclear weapons. Alarm is caused in this respect by the nuclear ambitions and concrete preparations of the Republic of South Africa, Israel, and Pakistan. Reports are increasing in frequency about the

plans to create nuclear weapons in Brazil and Argentina. The review conference will probably again call on the member nations and especially certain Western nations to halt all nuclear cooperation with these nations, unless they place all their nuclear activity under the supervision of the International Atomic Energy Agency. There will again be calls from the podium for France and China to join the treaty. The review conference can be expected to express support for strengthening the role and responsibilities of the International Atomic Energy Agency, to maintain the rules established by the treaty.

In the nuclear non-proliferation treaty, the most important aspects of the efforts directed toward achieving nuclear disarmament are interwoven in a complex knot. The discussion of these questions, as witnessed by everyone, will have key significance for the success of the review conference.

Because of the obstructionist approach of the United States and certain other Western countries, a number of non-aligned and neutral countries have manifested a tendency to criticize the entire fulfillment of the relevant proposals of the treaty, as they emphasize that nuclear nations have adopted or have affirmed the obligations of the treaty concerning "conducting, in a spirit of good will, negotiations on taking measures for the rapid halt in the growing number of nuclear weapons," as well as "immediately stopping forever all experimental explosions of nuclear weapons."

Indeed the United States and Great Britain unilaterally halted negotiations with the USSR in 1980, negotiations which almost entirely agreed with the treaty's positions on a full and complete prohibition of nuclear testing. Later they announced to the world that achieving this all-inclusive prohibition would remain only a "long-term" goal, and they continued to raise false barriers to conducting negotiations on this matter at the Disarmament Conference in Geneva. Another unarguable fact is that in its aspiration to attain unilateral military superiority, the United States consciously prolongs the process, thus threatening the negotiations with the USSR about space and nuclear weapons. The Pentagon's program within the framework of the Strategic Defense Initiative will objectively lead to the destruction of a number of existing international treaties in the area of nuclear disarmament, which would worsen the situation in regard to fulfilling the obligations outlined in the non-proliferation treaty.

The socialist countries take a stand on these same critical positions in regard to their outcomes. But they are not just limited to this, however.

The socialist countries aspire to contribute to the creation of favorable conditions for conducting serious bilateral and multilateral negotiations on the whole spectrum of questions related to nuclear disarmament. A real expression of this is their many constructive proposals, expressing their flexibility in seeking mutually acceptable decisions at all forums for disarmament. Especially significant are the unilateral measures taken by the USSR to give a good example, including its unilateral moratorium on testing nuclear weapons. It is difficult to estimate the huge importance of the USSR's decision not to conduct a first nuclear strike and the guarantees given about

not using nuclear weapons against countries which have refused their production (for example, non-nuclear nations in the non-proliferation treaty) and have no such weapons on their territory.

At the review conference there will be an expression of the growing support for the idea nuclear-free zones in various areas of the world. The right of countries to participate in creation and function of such zones is recognized by Article 7 of the non-proliferation treaty. Active efforts by a number of countries in Europe, the Balkans, Northern Europe, and other areas of the world have achieved concrete results in the establishment of nuclear-free zones; these represent a valuable contribution to realizing the conditions of this treaty. An important step in moving to a world without nuclear weapons was a recently adopted agreement about such a zone by 13 non-nuclear nations in the South Pacific Ocean.

The socialist countries expect that all the member nations of the non-proliferation treaty will manifest a positive approach to strengthening its rules and will take concrete measures to achieve a breakthrough in the efforts for nuclear disarmament and averting a nuclear war.

The Bulgarian society fully supports the noble goals and principles of the Nuclear Non-Proliferation Treaty and will attentively follow the conduct of the review conference, which some already see as the beginning of preparations for continuing the treaty after its expiration in 1995.

British Attitude Criticized

Sofia RABOTNICHESKO DELO in Bulgarian 28 Aug 85 p 7

[Article by Petur Bochukov: "The Springs of Hypocrisy"]

[Text] "I see no way the government could approach Geneva with clean hands, but it should at least try to wash some of the filth off," exclaimed Denzil Davis, a member of the shadow cabinet and its spokesman on military issues, on the eve of the conference which began today in the Swiss capital, the third review conference for monitoring the activity of the Nuclear Non-Proliferation Treaty. "During the last 5 years (the period of time between conferences--author's note), it has not participated in even one international demonstration called to influence the limitation of nuclear weapons," he stressed.

James Wallace, speaker of the Liberal Party on questions of defense, addressed the position of the government in London with sharp criticism of its activity in regard to the important agreement, the justifiably named foundation stone of one of the basic trends in the measures taken to limit the danger of war. He said that the British government had violated the spirit and the letter of the agreement, signed in 1968, which had entered into force in 1970. "The government's hypocrisy is so much greater," he pointed out, "because of the fact that its members simultaneously support the principles of non-proliferation and affirm that thanks to nuclear weapons, Europe has not had a war for 40 years."

The nature of a press conference that took place in London on the eve of the Geneva conference is indicative of the mood here. The Geneva conference was preceded by the new Soviet initiative for a unilateral moratorium on all nuclear testing, and it was greeted with widespread approval in Great Britain. At this press conference, the leader of the Nuclear Disarmament movement, Joann Ruddock, called on the government to halt nuclear testing and to take part in signing the agreement for their universal prohibition.

These three statements give an idea of the parameters of the serious societal dissatisfaction with the official British position, which undermines hopes for reining in the nuclear arms race. Another expression of this dissatisfaction is found in a recent article by Rod Edwards in the NEW STATESMAN, in which he gave a historical overview of the main reasons and those responsible for missed opportunities and the lack of foresight in negotiations up to now for eliminating this great danger.

As we know, there are nearly 130 nations which have signed the Nuclear Non-Proliferation Treaty. This most representative international document for limiting the spread of arms envisions a system of strict control, carried out by the International Atomic Energy Agency (IAEA), under the aegis of the United Nations. Basically it was an agreement among nations which possess nuclear weapons (the USSR, Great Britain, and the United States), and states with non-nuclear weapons. The second group of nations, which is obliged not to produce nuclear weapons, has received from the agreement the right to develop peaceful uses of nuclear power and to receive the necessary assistance from the nuclear nations.

But the United States and Great Britain have not maintained their obligations in regard to the treaty. They have blocked the resumption of the trilateral negotiations with the Soviet Union, which were cut off, about the full and complete prohibition of testing nuclear weapons. Together with this, Great Britain and the United States continue to render assistance in the development of nuclear weapons to nations which have refused to ratify the treaty (Israel, the Republic of South Africa, and Pakistan), by giving them modern nuclear technology. In the middle of the last decade, the so-called London Club for 15 firms was created in the British capital; these firms are producers of nuclear technology who have announced that they have established their own control over exports, which are a corollary to the treaty's requirements. But with its decision to purchase the Trident nuclear submarine system from the United States, the British government committed a new violation of the treaty, according to which any nation which possesses nuclear arms is obligated not to give over, directly or indirectly, such weapons.

With the real opportunity now created by the Soviet Union for a full and complete ban on nuclear testing as an important step toward limiting and gradually reducing nuclear weapons, the British government must listen to the voices of millions of its citizens, who hope this opportunity will not be lost.

Bulgarian Delegation Comments

Sofia RABOTNICHESKO DELO in Bulgarian 30 Aug 85 p 7

[Article: "A Stable Factor for Peace"]

[Text] At the plenary session of the review conference for monitoring the activity of the Nuclear Non-Proliferation Treaty, the leader of the Bulgarian delegation, Lyuben Gotsev, the vice minister for foreign affairs, outlined the position of the Bulgarian People's Republic on the basic questions related to the international regulations included in this important treaty.

The speaker noted that this treaty is a stable factor in strengthening peace and international security. The number of signatories is already 130 and this speaks about its authority as the most universal international document in the area of nuclear disarmament.

Lyuben Gotsev expressed Bulgaria's adherence to and support of the aims and principles of the treaty, not to permit the spread of nuclear weapons or the appearance of new nuclear nations. Any attempt to weaken the effect of the non-proliferation treaty would lead to fatal consequences for both non-nuclear and nuclear nations, he announced.

The leader of the Bulgarian delegation turned his attention to the concrete efforts of the socialist nations in fulfilling all the positions outlined in the treaty, including those directed toward achieving nuclear disarmament. On behalf of the Bulgarian delegation, he greeted the constructive steps taken by the USSR in this area. He stressed that the moratorium on Soviet testing, which took effect on 6 August 1985, is an important historical moment, which the United States should not let pass, for achieving a full and complete ban on nuclear testing.

The leader of the Bulgarian delegation spoke about the contribution of the Bulgarian People's Republic and of Comrade Todor Zhivkov's own contribution to the active development of the idea of turning the Balkans into a nuclear-free zone. This would be a concrete step forward, not only in strengthening the security of all the Balkan peoples, but also in carrying out the positions of the non-proliferation treaty, which foresees creating such zones in various areas of the world. Lyuben Gotsev announced that the Bulgarian delegation would introduce a working document about the question of nuclear-free zones and the security of non-nuclear nations.

12334
CSO: 5100/3040

BULGARIA

NEED FOR TRAINED PERSONNEL AT KOZLODUY EMPHASIZED

Sofia ZABOTNICHESKO DELO in Bulgarian 30 Aug 85 p 3

[Article by Nevena Markova: "For Today, But Also for Tomorrow"]

[Text] A check at the Kozloduy Nuclear Power Station [NPS] showed a number of positive aspects of work at the station, but there are also some unresolved questions related to securing, preparing, and training the cadres.

The plan for assigning highly trained and generally trained technical cadres at the Kozloduy NPS has not been fulfilled. Only 25 to 30 percent of the young specialists who are sought have applied for work at the station, according to a conversation with the chief director of the NPS, hero of socialist labor Georgi Dichev.

Next year the fifth power block at the Kozloduy NPS, with a capacity of 1,000 megawatts, will go into regular operation. A basic concern and a responsibility of the leadership of the NPS is securing the necessary qualified cadres for the first 1,000 megawatt reactor in our nation, and thus their efforts are devoted to coping with this task. These thoughts, conclusions, and evidence from the check are complemented by the opinion of the secretary of the station's party committee, engineer Nikolay Videnov.

"A basic supplement to the station's workers' collective comes from the Igor Turchatov Thermonuclear Power Technical-Vocational School in Kozloduy," he noted. "But the school cannot respond to the great demands for cadres, and these demands are growing every year. Thus it is quite necessary to increase the number of classes at the school, to expand and enrich the existing material-technical base of this terribly needy educational institution, so that it could more fully respond to the growing needs for highly trained cadres."

This was also the point of view of Manol Khristov and Yordan Dobrev, specialists from the educational center. Obviously it is necessary, and even possible, to transform the Igor Turchatov Thermonuclear Power Technical-Vocational School into a new type of institution, which would truly be a forge for cadres for the nuclear power industry.

There is a constantly growing need for cadres for Bulgaria's nuclear power industry, whose installed capacities will reach 9,500 megawatts by 1995.

One of the forms of training the future specialists at the nuclear power plants is carrying out the third level of training of students from higher education institutions at the base enterprises. But a problem arises here: has a modern material-technical base been created for their effective study on the territory of the Kozloduy NPS?

In order to find a suitable answer to this knot of problems and to outline the most precise prospects for the training of highly qualified cadres, the plant's leadership, together with specialists from the Thermonuclear Power Department at the V. I. Lenin Higher Machine-Electrical Institute in Sofia, discussed the idea of creating an educational-technological block at the NPS. The following, enlarged tasks would find a place among its functions:

The effective training of students from tertiary education levels;

Training pupils from the third level of (ESPU) and practical training of students from technical-vocational schools;

Post-graduate work for specialists with higher and secondary technical education;

Raising the qualifications of executive cadres at the existing and future reactor blocks;

Implementing an educational training center and raising the qualifications of the operating personnel;

Allowing the possibility of graduate work there.

This entire educational-technological block would be guided by Base for Development and Implementation at the NPS, in all its areas, and it will carry out the coordination activities with other units: higher education institutions, the Bulgarian Academy of Sciences, Energoproekt, the Committee for Peaceful Use of Nuclear Power, and other scientific research institutes.

A serious problem, which has not been solved for years, is the still uncompleted educational training center. It was envisioned and designed for teaching personnel at the existing VVER-440 megawatt reactors. Unfortunately, however, construction of it has been halted for 7 years. It is high time for the main executor, the enterprise for industrial construction in Kozloduy, to carry out its obligation and bring this educational training center into regular operation, along with the necessary equipment which would respond to the contemporary level of nuclear production. There can be no toleration of delays in supplying a VVER-1000 training model for the use of the operating personnel at the plant.

With a thought not only for today, but also for tomorrow, the leadership of the Kozloduy NPS approaches these and other "hanging" questions, which await a speedy resolution, so that it can truly be profitable and effective today, and tomorrow can bring satisfaction from what has been accomplished.

ARGENTINA

CNEA CHAIRMAN DISCUSSES BUDGET PROBLEMS

PY040151 Buenos Aires DYN in Spanish 2021 GMT 2 Sep 85

[Text] Buenos Aires, 2 September (DYN)--Alberto Constantini, chairman of the National Atomic Energy Commission (CNEA), today said that Argentine nuclear development is "at least" maintaining the level it reached in October 1983. He reiterated, however, that he is "greatly worried" over the budgetary problems the CNEA is facing.

Referring to his administration as the head of the CNEA, Constantini affirmed that "in the last two years, Argentine nuclear development has continued on the same course and the same trends it has been following."

Questioned by Radio El Mundo, the CNEA chairman contended that Argentina should maintain its position of exclusively investigating the peaceful uses of atomic energy. Regarding the possibility that Brazil might be in the position to build an atomic bomb, he said that "given that country's technological and scientific development, it might be, but I cannot say for sure."

Asked whether Argentina should manufacture the bomb if Brazil does, the CNEA chairman answered that "this is a political problem that is not for me to resolve." He added: "I understand that we should not go around doing what our neighbors do, but we should also try to get our neighbors to do what we do; that is, devote themselves to the peaceful uses of atomic energy."

Commenting on his activities as CNEA chairman, Constantini said that "in these two years, we have continuously emphasized that our activity has peaceful objectives. To that effect, we have developed programs in nuclear medicine and biochemistry, including that of industries related to these programs, such as the cobalt industry."

He then added that "we have also developed a complete line of peaceful applications of atomic energy in various fields, such as food conservation, animal production, engineering, and so forth. We are no longer at the level of talking about the peaceful uses of nuclear energy, but at the level of its peaceful applications."

Constantini affirmed that the level of nuclear development in Argentina "continues to be at least that which we reached in October 1983."

Lastly, he said that the budgetary problems for the continuation of our projects "are the ones that worry us the most." He added that budgetary limitations are affecting construction timetables, and noted that "our great concern is the budget for construction."

He said that the budget cuts "preclude maintaining the timetables for projects, especially the Atucha II Project."

Constantini affirmed that for this reason he is asking the government to adopt measures to increase the CNEA budget: "I am asking that the possibility of obtaining an external credit be studied, because if the amount of funds allocated now is maintained in the coming years, we will not be able to finish Atucha II by 1992."

CSO: 5100/2002

21 October 1985

BERMUDA

POLL SHOWS U.S. 'SHOULD INDICATE NUCLEAR ARMS PRESENCE'

Hamilton THE ROYAL GAZETTE in English 5 Aug 85 p 1

[Text] More than 85 percent of Bermuda residents believe Government should be advised if nuclear weapons are to be deployed on the Island, a recent telephone survey by the Nuclear Awareness Group (NAG) reveals.

The NAG's findings follows US State Department correspondence with the Bermuda Government last winter in which it said it could neither confirm or deny the existence of contingency plans to place 32 nuclear-tipped depth bombs in Bermuda for use in anti-submarine warfare.

Yesterday Premier the Hon. John Swan said about the finding:

"My position has already been made clear. We are still a dependent territory. The US Bases Agreement gave sovereignty to the base which plays a part in NATO. NATO policy is to neither confirm or deny the existence of nuclear weapons in any jurisdiction they might be held."

The question put to respondents in the NAG survey was: "Should the Bermuda Government be advised if nuclear weapons are to be deployed here?"

The survey revealed that of the people who identified

themselves as Bermudian, more than 90 percent indicated that Government should be advised.

The survey results, issued yesterday and described by the NAG as preliminary, were based on a random, computer-generated telephone number list asking more than 800 people 18 years old and over numerous questions on nuclear issues. Organisers said several demographic questions such as education, income and race were asked to ensure a sample representative of the Bermuda population was obtained.

NAG organisers said in the release of their survey results that: "Many respondents expressed frustration about Government's response (or lack of it) after the unarmed Pershing missile reportedly landed 145 miles from Bermuda in May, 1984, and, in a broader sense, Bermuda's present inability to play a greater role in its own destiny because of the US/UK/NATO ties negotiated on our behalf many years ago."

The survey also found that about 57 percent of respondents indicated they would support the banning of all nuclear weapons in

Bermuda, while 29 percent said they would not. Sixty percent of Bermudians polled favoured a ban while 26 percent said they were against it.

Despite those opinions, three-quarters of respondents indicated they wanted to express their views on a weapons ban through a referendum.

And only 22 percent said the nuclear arms-build-up was securing peace while 64 percent said it wasn't.

In concluding, the NAG said it "hoped more residents, particularly on this anniversary of the Hiroshima and Nagasaki atrocities, will consider Bermuda's role in supporting the nuclear arms race and the potential dire consequences for us and our children if such a role is to be continued."

In an additional NAG statement, NAG committee member Mr. Edward McGonagle said people should aim for a nuclear freeze that would stop all testing, production and deployment of nuclear weapons by both the US and Soviet Union.

BRAZIL

PIVA CONFIRMS COUNTRY ABLE TO MAKE BOMB IN FIVE YEARS

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 17 Aug 85 p 2

[Text] Paraiba Valley--"Brazil will be able to make the atomic bomb within 5 years," according to a statement made yesterday in Sao Jose dos Campos by Brig Gen Hugo de Oliveira Piva, director of the Aerospace Technology Center (CTA), a branch of the Ministry of the Air Force. The general thus confirmed two news releases published by O ESTADO DE SAO PAULO on 9 December 1983 and 6 August 1984; however, he emphasized that the manufacture of the nuclear weapon "depends on a political decision to be made by the Federal Government and that "the subject is being discussed by the National Security Council." He also said that the current president of the republic, like his predecessor, "has not yet reached any decision."

In the newspaper's two news releases, journalist Roberto Godoy, specialist in armaments, gave full details of the project being carried out at the CTA, the Institute for Nuclear and Energy Research (IPEN) in Sao Paulo, the Army Technology Center in Rio and other research institutions. General Piva asserted yesterday that "with the combined efforts of those institutions, we shall be able to manufacture the bomb."

In the two news reports it was shown that the studies now underway will give the country scientific-military self-sufficiency in the nuclear sector by 1990--thus, 5 years, as General Piva stated. At that time a decision should be made at the governmental level as to whether that capability should or should not be used for the manufacture of nuclear weapons.

Supersonic Facility

General Piva said that the CTA has begun preliminary studies on the construction of a supersonic tunnel for aerodynamic tests--the first step in the construction of a modern supersonic pursuit plane which will give Brazil aerial superiority by enabling the Brazilian Air Force (FAB) in the 1990's to replace the Mirage III and F-5E units now imported from France and the United States. Therefore, in the next decade, Brazil should be joining the exclusive club of countries which manufacture high-performance supersonic pursuit planes.

Those projects were approved by Jose Sarney, president of the republic, when he visited the CTA and EMBRAER [Brazilian Aeronautics Company] early

this month. General Piva himself took the initiative to invite the journalists to his office "to give an account of the results of the presidential visit." In addition to the atomic bomb and supersonic plane, the CTA director advised that Brazil "is now studying the possibility of manufacturing airplane motors with 100 percent national technology." The first phase of that project is the development of an Otto-cycle motor for buses and trucks up to 15 tons, particularly designed to use alcohol as fuel, "even though its alcohol consumption would be approximately 30 percent greater than that of gasoline." He pointed out, however, that the present alcohol motors "were adapted but not designed as in the case of the motor being developed by the CTA."

The general explained that a pool of private national companies was formed for the manufacture of the components of that motor, of approximately 240 horsepower, which will be ready for bench-testing by the end of this year. Field-testing will begin in 1986 with CTA buses and other vehicles already equipped with the motor. "After we have begun to manufacture that motor in series, we shall begin to design a motor specifically for airplanes, since we shall already have the know-how," the general said.

Nationalization

The CTA director also spoke about the AMX subsonic pursuit plane developed by EMBRAER and two Italian companies, Aeritalia and Aermacchi. According to Piva, 30 percent of the plane's spare parts, components and equipment will be manufactured by domestic companies. The CTA--which is participating with EMBRAER in that project--is selecting the companies in question, and it will be up to the IFI [Industrial Coordination and Promotion Institute], CTA's acceptance organization, to control the quality of the pieces and equipment to be used in the planes which will equip the FAB and Italian Air Force. Brazil will manufacture parts of the Rolls Royce motor and electronic equipment.

As soon as the AMX gets into the mass-production stage at the end of 1987, Brazil will begin the industrial production of the Piranha, the first "intelligent" missile manufactured in the Third World. By the end of 1986, the Federal District's Vasconcelos, the company which received the missile technology from the CTA, will begin to make tests on air and land targets "with the supervision of the Ministry of the Air Force." The Piranha is considered "intelligent," because it is guided by the heat of the motor of the enemy aircraft and explodes upon contact. A radar arrangement makes it explode, even if it does not strike the target.

B568

CSO: 5100/2168

BRAZIL

SARNEY SAYS NUCLEAR ENERGY FOR PEACEFUL PURPOSES

PY200047 Brasilia Domestic Service in Portuguese 2200 GMT 19 Sep 85

[Text] This morning at Planalto Palace, President Jose Sarney installed the nuclear evaluation commission, which is made up of scientists and representatives of government agencies associated with the nuclear energy program. The commission will review the program and will submit recommendations for its reformulation to the president.

Whatever the changes introduced into the program at the commission's suggestion, the president made it clear that nuclear energy will be used exclusively for peaceful purposes.

[Begin Sarney recording] I reiterate our country's unyielding commitment to use nuclear energy for peaceful purposes. We want to apply this energy to the health and industrial sectors. Under the current socioeconomic circumstances, [words indistinct] the national community as a whole must engage in this debate so that we may democratically decide what to do with the nuclear energy. [end recording]

(Oscar Salas), a physicist and Sao Paulo University professor, in his capacity as alternate president of the commission, was installed today replacing Jose Israel Vargas, the commission's president, who is abroad.

The commission has 180 days to submit a report to President Jose Sarney.

CSO: 5100/2000

BRAZIL

U.S. NUCLEAR SUBMARINE FORBIDDEN TO DOCK

PY041501 Rio de Janeiro O GLOBO in Portuguese 2 Oct 85 p 7

[Text] Santos, Sao Paulo State -- The U.S. nuclear submarine, the USS Shark, probably carrying medium-range nuclear missiles, has been anchored at Munduba Point on Guarujá Island, 5 km from the port of Santos, since yesterday afternoon. The Brazilian Navy and National Nuclear Energy Commission (CNEN) have forbidden the nuclear submarine from docking.

The 76.6-meter-long Skipjack class submarine, carrying a 93-man crew, will remain until tomorrow in a 250-meter zone closed to nonmilitary vessels. The CNEN has requested that a Navy patrol boat collect samples of the water where the submarine is anchored for laboratory analysis to determine whether it contains radioactive material.

Four other U.S. ships -- three destroyers and a supply ship -- arrived yesterday at Santos Port, where they will remain until the beginning of the 26th Unitas Operation, which will start 3 October and will probably end on 22 October. The participating ships will also visit the ports of Rio de Janeiro and Salvador (dates yet to be confirmed). The Brazilian and Uruguayan navies will also participate in the Unitas maneuvers this year. Uruguay has sent only one frigate, the R.O.U. 18 de Julio.

CSO: 5100/2001

BRAZIL

BRIEFS

ANGRA I OPERATIONS HALTED--Rio de Janeiro--The Angra I nuclear power plant is again broken down and idle since Monday due to corrosion in its condensers, according to a statement made yesterday in Rio by Camilio Pena, president of Furnas. The plant is scheduled to be back into operation tomorrow to supply electric power to the Rio-Sao Paulo axis. In the opinion of the Furnas president the plant's main problem does not lie in its power-production system but, rather, in its components which are continuously defective. At full capacity, Angra I is to furnish 600,000 kilowatts of power per day as a complement to that being supplied by the Furnas-system hydroelectric plants serving the southeastern area. Getting the Angra I in continuous operation without the frequent interruptions which have characterized the plant is one of the priorities of the country's energy policy, according to Mines and Energy Minister Aureliano Chaves. "Angra II, whose construction is underway, is not expected to have such interruptions," said the minister and then added, "with regard to Angra III, there will be a re-examination of the project based on the priorities set by the officials of the economic sector." [Text] [Sao Paulo O ESTADO DE SAO PAULO in Portuguese 16 Aug 85 p 28] 8568

SABOYA SUPPORTS ATOMIC BOMB RESEARCH--Brasilia, 13 Sep (EFE)--Brazilian Navy Minister Admiral Enrique Saboya has expressed support for mastering the cycle of studies for manufacturing the atomic bomb. He made it clear, however, that no research is being conducted in this field. He made this statement on 12 September in Fortaleza, capital of Ceara State in the northeastern part of the country, and it was published today by JORNAL DE BRASILIA in a front-page report. These remarks were made 2 weeks after the Brazilian Foreign Ministry had to give urgent explanations, especially to the Argentine Government, after a local newspaper attributed to the Army minister a request to a group of congressmen to support a presumed plan to build the atomic bomb. The Brazilian Government asserted that the objective of the research and development of the nuclear industry is to generate electricity. According to the Foreign Ministry, Brazil remains faithful to its peaceful calling. [Text] [Madrid EFE in Spanish 0135 GMT 14 Sep 85 PY]

CSO: 5100/2000

INDIA

LOCAL CITIZENS OPPOSE ATOMIC POWER PROJECT IN GUJARAT

Madras THE HINDU in English 7 Sep 85 p 7

[Text] AHMEDABAD, Sept. 6--What started as a protest against locating an atomic power project at Kakrapar in Gujarat's Surat district four months ago, has by now become an agitation against the country's nuclear policy. The sponsors of the stir, mainly Gandhian rural workers, say and "it is catching up" and the officials of the Kakrapar Atomic Power Project (KAPP) describe it as both "surprising [passage illegible] as safe as any other nuclear plant in the country. They have offered to take the protestors--at least the opinion leaders--to any or all the working atomic power plants in the country and even other related establishments.

While stressing that the vehemence of the protest, though based on "perhaps incorrect" assumptions, need to be countered effectively through "education, not mere rebuttals", no course of action has been evolved in the last four months.

Objections to the Rs. 383-crore project, designed to generate 235 MW of power from each of its two units from 1990-91 and 1991-92, respectively, are rooted in the fears that the nuclear power generation is "unsafe, unclean and has the deadly potential of a nuclear explosion". The pollutant is "radioactivity, an unseen killer which we and the future can do without".

The safety of the people in the tribal belt around Kakrapar "is the motivating force", according to Mr. Narayan Desai, Director of the Institute of Total Revolution and also of the Gandhi Vidhyapeeth in Vedchi, who initiated the protest. His associate, Mr. Mohan Narhari Parikh, last year's winner of the Jamnals Bajaj Award for rural reconstruction, also underscored the "unclean nature of nuclear energy, especially the process that portends of disaster". Mr. Parikh is the convener of a committee-in-the-making that proposes to spread the stir to the entire State.

Mr. Desai and Mr. Parikh, while convinced about the justification of their campaign, still have an open mind on the issue and are willing to hold talks. What has hurt them most is the attitude of the Prime Minister's office and the Chief Minister's office. "Our communications to them detailing the resolutions we passed on the issue at a rally in Surat on the Hiroshima Day have not even been acknowledged," they told this correspondent in a joint interview. This attitude "does not show any concern for the

people...But a voice backed by a mass of people will have to be heard".

Demands: They have now made four demands, including a "standstill status" for all nuclear projects and a consensus on the use of nuclear energy. The funds allocated for nuclear energy can be diverted to "safer energy" sources like wind, solar and biogas systems, until a consensus is arrived at. Otherwise, the people should be informed about nuclear issues, without hiding anything under the pretext of national security.

Many villagers around Kakrapar have ventilated their apprehensions about the project—their concern is more immediate—and have questioned the right of the Government to locate a nuclear plant in their midst without first explaining the dangers of radioactivity.

Bhopal fall-out: The Bhopal gas leak in December last sparked off the people's fears, culminating in a peaceful rally, on May Day, this



year. Thousands gathered in Bedkuvadur village, 2 km from Kakrapar that day, despite the prohibitory orders in force and the withdrawal of transport buses in the entire taluk sector. This was followed by a convention in Surat attended by over 200 activists. Then they decided to enlarge the stir Statewide and listed the

four demands, which were different from the mere anti-KAPP fight, earlier.

According to the protestors, the police did not have enough buses to take away the demonstrators who were peacefully courting arrests. Ultimately, an agreement was reached, and only 150 persons were taken away, to be let off later. The prohibitory orders and the dislocation of bus services are viewed as the "Government's effort to choke the protest".

"Long standing demand": The Chief Minister, Mr. Amarsinh Choudhury, in whose Assembly constituency most of the protest activity is centred, told THE HINDU, that a project like Kakrapar, is a "long standing demand" in an industrially developing State like Gujarat. "Our scientists have the expertise and experience for setting up nuclear plants without safety laps", he said adding, "One does not stop flying merely because a plane crashes somewhere".

Mr. Prasad and two experts from the Bhabha Atomic Research Centre (BARC)—Mr. R. C. Rastogi (Health Physics) and Mr. B. M. L. Sah (Radioactive Waste Management) say that the radioactive releases in atmosphere will be less from nuclear stations than from the sun's radiation.

They even spoke of the Three Mile Island incident, in the U.S. in which the failure of the secondary cooling system led to the overheating of a nuclear reactor core and the melting of some of the fuel rods, releasing gaseous radioactivity, in March 1979. This raised a fresh debate on nuclear safety then as the Bhopal tragedy has done now about the gas leak.

The BARC scientists said that the radioactive level of the Three Mile Island leak was only one millirem as against 65 millirems from the sun. A unit of ionizing radiation, roentgen equivalent man (rem) is equal to the amount that produces the same damage to the humans as one roentgen (R) of high-voltage x-rays. A millirem is one-thousandth of a rem.

INDIA

FOREIGN INTEREST IN URANIUM MINES DISCUSSED

Calcutta RAVIVAR in Hindi 18-24 Aug 85 pp 32-33

[Article by Shailesh: "Foreign Eye on Uranium Lode"]

[Text] Are foreign powers keeping an eye on the uranium mine in Lalitpur District of Uttar Pradesh (UP)? Mr Harsah Vardhan, a Janata Party member of the parliament, has alleged that as the result of a conspiracy by a UP minister and some important members of the Mining Commission a foreign power has learned the secret about the uranium mines.

Uranium in Saunrai area of Lalitpur District was discovered around 1970. A group of Indian and Soviet geologists, after intensive surveying, had reported a huge deposit of phosphate rock in Gora, Pisanari and Tori villages in Saunrai area. Deposits of "coffinite" were also discovered about 10 meters below the phosphate rock. Uranium is extracted from coffinite by a chemical process. The leader of the Soviet geologists was Professor Vagdanov. After some preliminary investigation a long range plan was made in 1974 to produce uranium from phosphate rock and coffinite. This scheme called "Uranium Bitumen Mineralization" was launched under the leadership of Professor Vagdanov and was helped by the Mineral Development Project of the United Nations.

India did not possess the technology to refine uranium in 1974. It obtained the assistance of Soviet scientists. The United States had already expressed its ill will toward India by refusing uranium for the Tarapore Atomic Plant. India, therefore, was careful to keep the uranium find from the United States. According to a source within the Mines Commission, the U.S. bloc tried hard to get into this area, but the Indian government refused to allow it.

The Indian Geological Survey Commission, Atomic Commission and UP's State Mining Agency began to work in cooperation with the Soviet scientists. The cover story for this project was that they were conducting experiments to refine and find different uses for phosphate rock. However, they were also conducting research on uranium. Uranium can be used for making atom bombs as well as producing atomic energy. It is obvious that the central government never publicized any information about uranium in this area. The late Prime Minister Mrs Gandhi once did mention in parliament that there were uranium mines in Lalitpur.

The first manager of Lalitpur Phosphate Rock Project, Mr I.K. Dalela, engaged Engineers India Limited, a central government undertaking, to find ways to

purify coffinite. The company prepared a detailed report within a few days. According to informed sources this report indicated availability of .1 percent uranium in the coffinite found in Saunrai area. Other scientists had already agreed that a large deposit of uranium existed in that area. Availability of .1 percent uranium is considered important.

At that time some mysterious changes began to take place in this project. Mr I.K. Dalela was replaced by Mr V.K. Sarkar as the project manager. Mr Sarkar has lived for a long time in the United States and one of his sisters is still living in Canada. The first thing Mr Sarkar did on taking charge was to dismiss the report prepared by Engineers India Limited even though this organization is highly respected in this field. This company installed two machines of similar nature in Jamalkotra, in Udaipur District of Rajasthan. Both of these machines are working perfectly.

After disapproval of the report by Engineers India Limited, a plan was started to hand this project over to the Americans. Several officers of the Mining Corporation [of India] and the state government were involved in this conspiracy. At Mr Sarkar's insistence, these officials wrote to the government urging it to replace Engineers India Limited with Vaishali Enterprises, a Delhi firm related to Canada's MITCHEM [M & T Chemicals?]. Actually, Vaishali Enterprises is an agency of MITCHEM. Had this firm gotten the contract, the United States would have easily learned from its Canadian friends about the uranium find in India. This conspiracy, however, did not succeed. The provincial government rejected this request since the required technology was available in the country and the government was unable to bear additional expenses. The eagerness of the American bloc to learn about the uranium mine is clear from the fact that MITCHEM, on rejection of its proposal, offered to prepare the report at no cost except for travel expenses. When the provincial government rejected this offer also, MITCHEM proposed to prepare the report free of any charge! The officials accepted this offer and thus began travels of foreigners to Lalitpur.

Central government permission is essential for visiting uranium fields even for Indian nationals. "No Admission" signs are everywhere in Saunrai area. The security officers were suspicious when they saw two Canadian citizens walking around in the mines area without any permission. These Canadian citizens were-- Chester McDougal Shinek and S. Srinivasan of Indian origin. Srinivasan and Shinek visited Lucknow and Lalitpur several times in April and May. In Lucknow they met Ravi Prakash, director of Uttar Pradesh Mines Commission. Mr Harsah Vardhan, who blew the whistle on this affair, confirmed that Ravi Prakash was also party to this "foreign conspiracy." Ravi Prakash sent the two foreigners to Lalitpur with U.P.S. Chauhan, an agency official.

Shinek and Srinivasan visited India on tourist visas.

Shinek's passport number was registered as IM 103-203 I, issued at Montreal. He gave his local address as Yashwant Place, New Delhi, and the purpose of the visit as business. How could he conduct business on a tourist visa? He arrived in Lucknow on 2 May at 7:00 am and left the next morning. They traveled to Saunrai in the agency's jeep with tag number UHF 9184 with geologist Chauhan. In Saunrai, Shinek and Srinivasan acted suspiciously. According to

the rules, they should have reported their arrival at the district office in Lalitpur. Instead, their visit was kept a secret from the district office and the police. What was the purpose of the Shinek and Srinivasan visit? Neither the local officials nor agency personnel were informed about it. One local official smelled a rat in this affair and informed the local intelligence office. On receiving this report the district office sent a cablegram to New Delhi. The exact text of the cable was: "Public source informs two Canadians roaming in phosphate rock mines in Saunrai. We have no additional information." According to intelligence sources, both Canadians visited the restricted area where coffinite was being mined. They stayed in D.G.M. Camp in Saunrai. There were about 500 kilograms of uranium (coffinite) in the camp which they took with them to Canada. They had reportedly come only to get samples of phosphate rock. Who gave them the permission to touch coffinite?

When the news of the presence of foreign nationals in that area was leaked to district officials, high officers of the Mining Commission began to harass local government personnel. K.N. Pande, a mining engineer was transferred from Saunrai to Lucknow where he has nothing to do. Harsah Vardhan has accused Gopinath Dikshit, UP mines and industries minister, and Ravi Prakash, UP's director of mines, of being involved in this conspiracy. This is a serious accusation. There is documentary proof that Ravi Prakash gave permission to the foreign nationals to visit the restricted area. This accusation becomes even more serious since he had given the permission after the government had denied it twice. Ravi Prakash is an officer with political clout; he has never passed the Indian Administration (IAS) examination and was given the IAS rank during the emergency. Local youth groups gave written reports to the offices of Ravi Prakash, Industries Secretary Mahesh Prasad and Industries Minister Gopinath Dikshit about the presence of foreign nationals in the area. None of them took any action. Harsah Vardhan brought this issue up in the state assembly and accused the industries minister and some other important officials of being involved in the conspiracy.

Officers in the mining department have said that they (Harsah Vardhan, etc.) are making a mountain of this mole hill of an affair. According to them, Shinek and Srinivasan had gone there to collect information on phosphate rock and they had no interest in uranium. These officers, however, cannot explain why the Canadian firm wanted to work free even after the government had rejected their proposal twice. Why was the firm given permission? Why was a person with Sarkar's background (he had lived in the United States and has relatives living in Canada) appointed to the Saunrai project? Why did not Shinek and Srinivasan inform the district authorities about their visit. Why were the activities of these two foreign nationals kept secret from all employees, especially engineers? Why was no one arrested when the news of their taking uranium with them was brought to light?

7997

CSO: 5100/4780

INDIA

BRIEFS

PUNJAB NUCLEAR PLANT--New Delhi, Sept. 10--The Congress (I) election manifesto for the Punjab polls has called upon the people of the State to exercise their franchise and "silence and immobilize" the forces asking them to boycott the elections, reports UNI. The manifesto, released by the Congress (I) working president, Mr Kamalapati Tripathi today, pledged to implement "in letter and in spirit" the Punjab accord and provide a "bright and assured future" for the State. Stating that the situation in the State was "complicated by external involvement" and forces of destabilization, the party said endorsement of the accord would be a "fitting" reply to those forces. The party promised to help set up a nuclear power plant in the State, complete the Thein dam project and the Sutlej-Yamuna link canal by August 15, 1986, if voted to power. The manifesto promised to pay reasonable procurement prices to agriculturists and step up production of edible oil and pulses and agro-industries. The Akali Dal (Longowal) manifesto will be released in Chandigarh tomorrow by the former Finance Minister and senior Akali leader, Mr Balwant Singh. [Text] [Calcutta THE STATESMAN in English 11 Sep 85 p 1]

CSO: 5150/0002

PAKISTAN

SCIENTIST REVIEWS ROLE, FAILURE OF NPT

Islamabad THE MUSLIM in English 13 Sep 85 pp 4-5

[Article by Dr A. Q. Khan]

[Text]

Among the most significant historical events of this century hardly any surpass in dramatic impact and long-range importance the testing of the first nuclear bomb at Alamogordo, New Mexico, in July 1945, and the subsequent dropping of the two atomic bombs on Japan in August 1945. Since that time nuclear proliferation has been of feature of the international political system. It was not until the 1960s, however, that an East-West consensus that the acquisition of nuclear weapons by more states, i.e. nuclear proliferation, would result in a serious threat to world security, was created. This consensus was formalised in the Non-Proliferation Treaty, NPT, which was signed in 1968 and came into force in 1970. However, some states agreed that a treaty that did not ensure actual nuclear disarmament was not desirable and could even be counter-productive. The main objection was that a treaty which prohibited non-nuclear-weapons states from acquiring nuclear weapons, while allowing the nuclear-weapon states to retain and to improve their nuclear stocks would contain such unbalanced obligations that it

would become impractical in the long run. Therefore, in order to meet the objections of these states and to pacify them, Article VI, which obliges the nuclear-weapon states to "pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament" was included in the treaty.

As a result of further insistence by a number of non-nuclear-weapon states that the nuclear-weapon states commit themselves not to use nuclear weapons against them, UN Security Council Resolution No. 255 of 19th June 1968 was adopted.

Art. VIII. 3 of the NPT states that: "Five years after the entry into force of this Treaty, a conference of Parties to the Treaty be held in order to review the operation of this Treaty with a view to assuring that the purposes of Preamble and the provisions of the Treaty are being realized". Since then there have been 2 conferences to review the operation of the NPT Treaty one in 1975, and one in 1980 and the Third Review Conference is now underway in Geneva. In 1995 the Treaty will cease to exist unless all the parties choose to extend its life. There are various doubts and grave fears that the non-nuclear-weapon states disenchantment with the working of the Treaty will lead to its tragic demise as a new universal instrument for preventing nuclear proliferation.

All over the world a general consensus has evolved that the mad race for the acquisition of more and more powerful nuclear weapons must be halted. This has led to a large number of publications, conferences, seminars, protests and appeals; the latest being an international conference arranged by H. H. Prince Sadruddin Aga Khan at Geneva from 27-29 July 1985. In this conference world-renowned scientists, clergymen, civil servants, politicians, etc. participated and warned the nuclear-weapon states that if they did not show sanity, and engaged in real disarmament and non-proliferation, the world was bound to meet her doomsday soon. Let us hope that the Third Review Conference now underway at Geneva is different from the first two Review Conferences which failed.

HISTORICAL BACKGROUND

"My God! what have we done?" ... were the words uttered in awe-some surprise by Capt. Robert Lewis, co-pilot of the craft Enola Gay that dropped the first atom bomb on Hiroshima on August 6, 1945. He was horrified to see the devastation brought on the city and its inhabitants by this new horrible weapon of unimaginable destructive power.

"My hands are covered with blood . . . I have become death, the shatterer of worlds", . . . were words spoken by a shocked Oppenheimer, father of the American Atom Bomb, when he saw the destruction brought about by the

scientific and engineering master-piece he had created.

All this happened 40 years ago when the Japanese cities of Hiroshima and Nagasaki were pulverised by Little Boy and Fat Man. Now the world is shuddering at the very thought of a nuclear holocaust, as the nuclear race begun on August 6, 1945 has progressed unabated and has resulted in stockpiles enough to give the equivalent of many tons of explosive to each and every inhabitant of our beautiful world.

The uncontrolled spread of nuclear weapons is posing one of the greatest threats of our time and is among the probable source of a future nuclear armageddon.

The use of atomic weapons by America in 1945 had brought a qualitative change in the balance of power and had fundamentally changed the nature of the military conflict. It had given the USA the unrivalled position of a prime mover of international affairs. This was naturally unacceptable to Russia and it laid the foundation of the nuclear arms race in which the UK, France and China joined for various international and domestic reasons. While one can understand and appreciate the reasons of acquisition of nuclear weapons by the USSR and China, there was no reason or compulsion for India to go nuclear and to shatter a sacred trust put in her by America and Canada to use a nuclear reactor and the heavy water supplied by them for peaceful purposes.

The undiminished nuclear arms race between the USA and USSR, the production of nuclear weapons by the UK, France and China, and the thus resulting radiation contamination and enhanced danger of nuclear proliferation forced a large number of non-nuclear developed and developing countries to take an initiative to put pressure on the nuclear-weapon states to agree to a treaty to control the nuclear arms race and eventually to total disarmament. The efforts were crowned with partial success when in 1968 the USA, USSR and UK agreed to frame a treaty, and opened it to signature on July 1st of that year, the Nuclear Non-Proliferation Treaty which went into force on March 5, 1970.

THE NPT

What is the NPT? In short the NPT provides that nations possessing nuclear weapons would not transfer their weapons to any non-nuclear country. Each non-nuclear nation agreed not to acquire nuclear weapons and the nuclear-weapon possessing states agreed to continue efforts to limit their

nuclear weapons. Moreover, the non-nuclear countries agreed to arrange with the International Atomic Energy Agency, IAEA, means to prevent the diversion of nuclear material from peaceful to military purpose. 134 countries, including the USA, the USSR and the UK, have signed the Treaty. West Germany, Japan, Israel, South Africa, India & Pakistan have not signed it. Pakistan is more than willing to sign it, provided India agreed to do the same. Time has proved, Pakistan right in not trusting India and refraining from taking unilateral action. I will come back to this later. However, for the sake of convenience for a layman who does not get down to consulting a library or has no literature at hand the whole Nuclear Non-Proliferation Treaty is reproduced here:

TREATY ON THE NON- LIFERATION OF NUCLEAR WEAPONS

The States concluding this Treaty, hereinafter referred to as the "Parties to the Treaty",

Considering the devastation that would be visited upon all mankind by a nuclear war and the consequent need to make every effort to avert the danger of such a war and to take measures to safeguard the security of peoples,

Believing that the proliferation of nuclear weapons would seriously enhance the danger of nuclear war,

In conformity with resolutions of the United Nations General Assembly calling for the conclusion of an agreement on the prevention of wider dissemination of nuclear weapons,

Undertaking to co-operate in facilitating the application of International Atomic Energy Agency safeguards on peaceful nuclear activities,

Expressing their support for research, development and other efforts to further the application, within the framework of the International Atomic Energy Agency safeguards system, of the principle of safeguarding effectively the flow of source and special fissionable materials by use of instruments and other techniques at certain strategic points,

Affirming the principle that the benefits of peaceful applications of nuclear technology, including any technological by-products which may be derived by nuclear-weapon States from the development of nuclear explosive devices, should be available for peaceful purposes to all Parties to the Treaty, whether

nuclear-weapon or non-nuclear-weapon States.

Convinced that, in furtherance of this principle, all Parties to the Treaty are entitled to participate in the fullest possible exchange of scientific information for, and to contribute alone or in co-operation with other States to, the further development of the applications of atomic energy for peaceful purposes,

Declaring their intention to achieve at the earliest possible date the cessation of the nuclear arms race and to undertake effective measures in the direction of nuclear disarmament.

Urging the co-operation of all States in the attainment of this objective,

Recalling the determination expressed by the Parties to the 1963 Treaty banning nuclear weapon tests in the atmosphere, in outer space and under water in its preamble to seek to achieve the discontinuance of all test explosions of nuclear weapons for all time and to continue negotiations to this end,

Desiring to further the easing of international tension and the strengthening of trust between States in order to facilitate the cessation of the manufacture of nuclear weapons, the liquidation of all their existing stockpiles, and the elimination from national armaments of nuclear weapons and the means of their delivery pursuant to a Treaty on general and complete disarmament under strict and effective international control.

Recalling that, in accordance with the Charter of the United Nations, States must refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any State, or in any other manner inconsistent with the purposes of the United Nations, and that the establishment and maintenance of international peace and security are to be promoted with the least diversion for armaments of the world's human and economic resources

Have agreed as follows:

ARTICLE 1

Each nuclear-weapon State Party to the Treaty undertakes not to transfer to any recipient whatsoever nuclear weapons or other nuclear explosive devices or control over such weapons or explosive devices directly, or indirectly, and not in any way to assist, encourage, or induce any non-nuclear-weapon State to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices,

or control over such weapons or explosive devices.

ARTICLE 2

Each non-nuclear-weapon State Party to the Treaty undertakes not to receive the transfer from any transferor whatsoever of nuclear weapons or other nuclear explosive devices or of control over such weapons or explosive devices directly, or indirectly not to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices; and not to seek or receive any assistance in the manufacture of nuclear weapons or other nuclear explosive devices.

ARTICLE 3

1. Each non-nuclear-weapon State Party to the Treaty undertakes to accept safeguards, as set forth in an agreement to be negotiated and concluded with the International Atomic Energy Agency and the Agency's safeguards system for the exclusive purpose of verification of the fulfilment of its obligations assumed under this Treaty with a view to preventing diversion of nuclear energy from peaceful uses to nuclear weapons or other nuclear explosive devices. Procedures for the safeguards required by this article shall be followed with respect to source or special fissionable material whether it is being produced, processed or used in any principle nuclear facility or is outside any such facility. The safeguards required by this article shall be applied on all source or special fissionable material in all peaceful nuclear activities within the territory of such State, under its jurisdiction, or carried out under its control anywhere.

2. Each State Party to the Treaty undertakes not to provide:

- (a) Source or special fissionable material; or
- (b) Equipment or material especially designed or prepared for the processing, use or production of special fissionable material, to any non-nuclear-weapon State for peaceful purposes, unless the source or special fissionable material be subject to the safeguards required by this article.

3. The safeguards required by this article shall be implemented in a manner designed to comply with Article IV of this Treaty, and to avoid hampering the economic or technological development of the Parties or international co-operation in the field of peaceful nuclear activities, including the international exchange of nuclear material and equipment for the processing, use or production of nuclear ma-

terial for peaceful purposes in accordance with the provisions of this article and the principle of safeguarding set forth in the preamble.

4. Non-nuclear-weapon States Party to the Treaty shall conclude agreements with the International Atomic Energy Agency to meet the requirements of this article either individually or together with other States in accordance with the Statute of the International Atomic Energy Agency. Negotiation of such agreements shall commence with 180 days from the original entry into force of this Treaty. For States depositing their instruments of ratification or accession after the 180-days period, negotiation of such agreements shall commence not later than the date of such deposit. Such agreements shall enter into force not later than eighteen months after the date of initiation of negotiations.

ARTICLE 4

1. Nothing in this Treaty shall be interpreted as affecting the inalienable right of all the Parties to the Treaty to develop research, production and use of nuclear energy for peaceful purposes without discrimination and in conformity with Articles 1 and 2 of this Treaty.

2. All the Parties to the Treaty undertake to facilitate, and have the right to participate in, the fullest possible exchange of equipment, materials and scientific and technological information for the peaceful uses of nuclear energy. Parties to the Treaty in a position to do so shall also co-operate in contributing alone or together with other States or international organizations to the further development of the applications of nuclear energy for peaceful purposes, especially in the Territories of non-nuclear-weapon States Party to the Treaty, with due consideration for the needs of the developing areas of the world.

ARTICLE 5

Each Party to this Treaty undertakes to take appropriate measures to ensure that, in accordance with this Treaty, under appropriate international observation and through appropriate international procedures, potential benefits from any peaceful applications of nuclear explosives will be made available to non-nuclear weapon States Party to this Treaty on a non-discriminatory basis and that the charge to such Parties for the explosive devices used will be as low as possible and exclude

any charge for research and development. Non-nuclear-weapon States Party to the Treaty shall be able to obtain such benefits, pursuant to a special international agreement or agreements, through an appropriate international body with adequate representation of non-nuclear-weapon States. Negotiations on this subject shall commence as soon as possible after the Treaty enters into force. Non-nuclear-weapon States Party to the Treaty so desiring may also obtain such benefits pursuant to bilateral agreements.

ARTICLE 6

Each of the Parties to the Treaty undertakes to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a Treaty on general and complete disarmament under strict and effective international control.

ARTICLE 7

Nothing in this Treaty affects the right of any group of States to conclude regional treaties in order to assure the total absence of nuclear weapons in their respective territories.

ARTICLE 8

1. Any Party to the Treaty may propose amendments to this Treaty. The text of any proposed amendment shall be submitted to the Depositary Governments which shall circulate it to all Parties to the Treaty. Thereupon if requested to do so by one-third or more of the Parties to the Treaty, the Depositary Governments shall convene a conference, to which they shall invite all the Parties to the Treaty, to consider such an amendment.

2. Any amendment to this Treaty must be approved by a majority of the votes of all the Parties to the Treaty, including the votes of all nuclear-weapon States Party to the Treaty and all other Parties which, on the date the amendment is circulated, are members of the Board of Governors of the International Atomic Energy Agency. The amendment shall enter into force for each Party that deposits its instrument of ratification of the amendment upon the deposit of such instruments of ratification by a majority of all the Parties, including the instruments of ratification of all nuclear-weapon States Party to the Treaty and all other Parties which, on the date the amendment is circulated, are

members of the Board of Governors of the International Atomic Energy Agency. Thereafter, it shall enter into force for any other Party upon the deposit of its instrument of ratification of the amendment.

3. Five years after the entry into force of this Treaty, a conference of Parties to the Treaty shall be held in Geneva, Switzerland, in order to review the operation of this Treaty with a view to assuring that the purposes of the Preamble and the provisions of the Treaty are being realised. At intervals of five years thereafter, a majority of the Parties to the Treaty may obtain, by submitting a proposal to this effect to the Depositary Governments, the convening of further conferences with the same objectives of reviewing the operation of the Treaty.

ARTICLE 9

1. This Treaty shall be open to all States for signature. Any State which does not sign the Treaty before its entry into force in accordance with paragraph 3 of this article may accede to it at any time.

2. This Treaty shall be subject to ratification by signatory States. Instruments of ratification and instruments of accession shall be deposited with the Governments of the United Kingdom of Great Britain and Northern Ireland and the United States of America, which are hereby designated the Depositary Governments.

3. This Treaty shall enter into force after its ratification by the States, the Governments of which are designated Depositaries of the Treaty, and forty other States signatory to this Treaty and the deposit of their instruments of ratification. For the purposes of this Treaty, a nuclear-weapon State is one which has manufactured and exploded a nuclear weapon or other nuclear explosive device prior to 1 January 1967.

4. For States whose instruments of ratification or accession are deposited subsequent to the entry into force of this Treaty, it shall enter into force on the date of the deposit of their instruments of ratification or accession.

5. The Depositary Governments shall promptly inform all signatory and acceding States of the date of each signature, the date of deposit of each instrument of ratification or of accession, the date of the entry into force of this Treaty, and the date of receipt of any requests for convening a conference or other notices.

6. This Treaty shall be registered by the Depositary Governments pursuant to Article 102 of the Charter of the United Nations.

ARTICLE 10

1. Each Party shall in exercising its national sovereignty have the right to withdraw from the Treaty if it decides that extraordinary events, related to the subject-matter of this Treaty, have jeopardised the supreme interests of its country. It shall give notice of such withdrawal to all other Parties to the Treaty and to the United Nations Security Council three months in advance. Such notice shall include a statement of the extraordinary events it regards as having jeopardised its supreme interests.

2. Twenty-five years after the entry into force of the Treaty, a Conference shall be convened to decide whether the Treaty shall continue in force indefinitely, or shall be extended for an additional fixed period or periods. This decision shall be taken by a majority of the Parties to the Treaty.

ARTICLE 11

This Treaty, the English, Russian, French, Spanish and Chinese texts of which are equally authentic, shall be deposited in the archives of the Depositary Governments. Duly certified copies of this Treaty shall be transmitted by the Depositary Governments to the Governments of the signatory and acceding States.

134 countries have signed this treaty, the notable nuclear-weapon possessing absentees being France, China & India, Israel, South Africa and Argentina are considered as threshold countries and have not signed the treaty either. Because of Indian action and her efforts to produce nuclear weapons, Pakistan has not signed this treaty but has made commitments to sign it simultaneously with India and to open all facilities to international inspection if India agreed to do the same. As stated earlier, the NPT was signed in March 1970 and it was agreed that every five years the parties would get together to review the progress and to see how well the treaty is achieving its purpose. They are now meeting in Geneva for the third time.

FAILURE OF THE NPT

In spite of all the vocal holier-than-thou attitudes and rhetoric to the contrary, the nuclear-weapon states are expressing their blind faith in the value and usefulness of nuclear weapons in the most unambiguous way by investing billions of dollars to perfect and to enhance the more than 50,000 warheads already available. This way they have shown the hypocrisy of their own commitments to the NPT and are bound to get some very sharp criticism for their

failure to do something towards nuclear disarmament. Unfortunately, the actions of the super-powers have made nuclear weapons more attractive, and less expensive, compared to conventional weapons, to many nations which face potential threats to their existence and sovereignty. The vertical proliferation by the nuclear-weapon states has continued unabated and has unfortunately been a great source of encouragement and incentive to near-nuclear and non-nuclear states to press for acquisition of these awesome, monstrous and immoral tools of destruction.

There is then a great possibility, to the extent of certainty, that if the super-powers do not make definite and concrete commitments to limit their own nuclear arms race, agree to a comprehensive test ban treaty and do more than mad talking, major non-nuclear threshold countries may go nuclear and quit the NPT. After all, one can give a notice of only 3 months to withdraw from the Treaty.

That would definitely mean the death of the NPT. If there is continued nuclear stock-piling by the super-powers, and observance of the treaty by the non-nuclear countries, the non-nuclear countries see the strong getting stronger and the weak getting weaker. This is the main reason why the non-nuclear weapon states have insisted upon a Review Conference every 5 years to keep pressure on the super-powers to achieve agreement on the Comprehensive Test Ban Treaty and on Nuclear Disarmament. The Third Review Conference being underway now is just for this purpose and the Group of 77 (which now consists of more than 100 states) will do all that is humanly possible to bring the super-powers to their senses and to meet their obligations to humanity.

The Third Review Conference will continue from where the first two Review Conferences stopped. The First Review Conference of the NPT in 1975 featured an unusual alignment. The USA, the USSR and the UK joined forces to resist the demands of the non-nuclear states, particularly the neutral and non-aligned countries of the Third World. This Conference made it evident to non-weapon states that the super-powers had not taken substantial and serious measures to halt vertical proliferation, nor were they prepared to make definite commitments to specific measures to that effect, such as the Comprehensive Test Ban Treaty prepared by the Non-aligned States. The Non-aligned States had asserted that they had fully lived up to their commitments

under the NPT whereas the nuclear-weapon states had not made good their promises. The non-nuclear states emphasized the failure of the super-powers to implement the treaty's provisions for stopping the nuclear arms race and cooperating in the peaceful uses of nuclear power. During the First Review Conference, the non-weapon states made several demands, amongst others an end to underground testing, a substantial reduction in nuclear stockpiles, a solemn pledge not to use or threaten to use nuclear weapons against non-nuclear states signatories to the Treaty and substantial assistance in developing the non-weapon states in the peaceful uses of nuclear energy. The 1975 Review Conference achieved a fragile consensus, expressed in a communique in which the nuclear-weapon states in effect promised to try harder to meet the demands of the non-weapon states.

The failure of the NPT was again manifested by the Second Review Conference held in September 1980 which demonstrated the failure of the nuclear-weapon states to fulfil their obligations to good faith negotiations and discussion towards stopping the nuclear arms race as soon as possible. No measurable or visible progress was made between the First and the Second Conferences: no Comprehensive Test Ban Treaty had been agreed upon and the Salt-II agreement had not been ratified. On the other hand vertical proliferation of nuclear weapons by the super-powers continued unabated and sophisticated and devastating nuclear and thermo-nuclear weapons were produced. It was in this atmosphere that the Second Review Conference was held. The Conference failed to reach agreement or consensus on any aspect of stopping the nuclear arms race. Unfortunately, the USA, which claims to be the champion of good causes, had led the nuclear powers in refusing to make concessions on measures for the control of the mad nuclear race. Thus the Conference had ended without a final declaration or even any final reaffirmation of support for the NPT.

It is most unfortunate and a real source of anxiety that the outlook for the Third Review Conference is as bleak or even bleaker than the first two Review Conferences. The frustration and disappointment of the non-weapon states is turning into resentment and anger because they are convinced that the super-powers have cheated them. This Group will definitely renew its long-standing demands for a Comprehensive Test Ban Treaty, Nuclear Disarmament

assurances that nuclear weapons will not be used or held out as threats against non-weapon states. They will demand greater assistance in the peaceful use of nuclear energy.

There is every reason to suppose and believe that the non-weapon states will press harder than they did in 1960 that the nuclear powers must immediately stop vertical proliferation. Indeed all sane people believe that an end to vertical proliferation is the only way to stop horizontal proliferation and that both must be stopped simultaneously or neither will be. The refusal by the USA to agree to a Comprehensive Test Ban Treaty and to refuse a moratorium on nuclear weapon testing (even for a short time) are not positive steps towards nuclear disarmament or non-proliferation. Every step in the right direction, no matter how small, is a positive development. If the USA and other nuclear-weapon states, submitting to this world opinion, agree to stop all nuclear tests, it would be the most important step since the signing of the NPT, and a major contribution to the nuclear non-proliferation regime.

WHY IS THE NPT FAILING?

The present Non-Proliferation Treaty is based on that set of rules, regulations, norms, agreements, procedures and institutions that try to control and regulate the international spread of nuclear technology and to constrain the ability of countries to acquire nuclear-weapon capability. The NPT has been founded upon a semi-imposed order and enshrines discriminatory principles and practices. This has made it both more politically fragile and less successfully adoptable to a changing situation than a treaty or a system established upon the basis of an openly negotiated treaty and non-discriminatory principle and rules. Thus a Treaty that was aimed at establishing an effective universal non-proliferation regime, one which should have encompassed all peaceful nuclear activities and to which all countries were expected to submit, failed bitterly to reach a universal international consensus and its scope is seriously limited. The main reasons for the failure of the NPT are:

(a) The Treaty is fundamentally discriminatory. It discriminates in its privileges and obligations between nuclear-weapon states and non-nuclear-weapon states.

It fails to prohibit the possession of nuclear weapons by the nuclear-weapon states.

(b) The NPT has bitterly failed to stop vertical proliferation and has thus lost most of its credibility.

(c) The NPT is also discriminatory with regard to the application of safeguards. These are not applicable to the peaceful nuclear activities of the nuclear-weapon states party to the Treaty.

(d) The NPT severely discriminates in its application of safeguards by making a distinction between two types of non-nuclear-weapon states, those which are Parties to the Treaty and those which are not. Whereas the former are obliged to have all their peaceful nuclear installations and materials under IAEA safeguards, the latter are required to submit to IAEA safeguards only the nuclear materials and installations which are supplied by countries which are Party to the Treaty.

Despite its explicit discrimination between nuclear and non-nuclear weapon states and the highly unequal distribution of obligations and privileges between the two groups, 134 countries have put

faith in it and have signed it in the hope that it might save humanity from annihilation. The above-mentioned discrimination has been tolerated in the short run considering the long term benefits at stake, but in the long run it is reinforcing the idea that possession of nuclear weapons carries with it tremendous power, prestige and freedom of action. Therefore in the long period that the NPT has remained in effect without nuclear disarmament by the super-powers and other nuclear-weapon states, powerful and great forces have been there to tear the NPT apart. Such a scenario has already been witnessed in the last two Review Conferences.

The biggest single cause for the failure of the NPT is the attitude of the super-powers. In blatant disregard to world opinion they have indulged in shameless proliferation of nuclear weapons. They have spent billions of dollars on increasing the number, and enhancing the killing power, of these awesome and abhorrent tools of destruction. Art. VI of the NPT has been played with at will and has been torn apart to one's convenience. The Third World has completely lost faith in the words and deeds of the super-powers. The only nuclear-weapon state which has all along shown willingness and has insisted upon complete disarmament is China.

Unfortunately, the USA and the USSR are engaged in a mad race of nuclear armament. The good faith reposed in the Treaty by the non-nuclear states has been shattered to pieces.

The feelings of the non-nuclear weapon states have been aptly expressed by Mrs. Alva Myrdal of Sweden who has been a champion of nuclear non-proliferation and one of the most important founding members of the NPT. According to her the last few years constitute a history of wilfully wasted opportunities to carry out disarmament. The major powers accepted not one iota of sacrifice of present or future nuclear weapon capabilities. She questions the value of the Non-Proliferation Treaty as an instrument to bring about nuclear disarmament and feels that a number of so-called international disarmament treaties, such as the Outer Space Treaty and the Treaty to keep the sea-bed free from nuclear weapon, are just a means to avoid the criticism of the super-powers at the world platform. She has pointed out that in the last few years the arms competition has resulted in an unimaginable widening of the gap between the super-powers and the non-nuclear-weapon states.

FUTURE OF THE NPT

If we try to judge the future of the NPT on the basis of the past behaviour of the nuclear-weapon states, the NPT should have died long ago or should die in the near future. Genuine hostility to the NPT has been shown in a number of Conferences, Meetings and Forums. The UN Conference on International Co-operation in the Peaceful Uses of Nuclear Energy in 1983 had provided a forum for a critical scrutiny of the non-proliferation system. This was initiated by Pakistan and Yugoslavia in 1977, partly as a reaction to President Carter's policies which were clearly aimed at attempting to restrain the transfer of peaceful nuclear technology to the developing countries. I believe this issue will play a dominant role in the Third Review Conference underway at present in Geneva.

There is, of course, a danger to the NPT if there is a rift between the super-powers. Despite their hostile behaviour to each other in many fields, their close co-operation in non-proliferation questions and in the IAEA has made a major contribution to sustaining NPT. What future lies for the NPT? Unfortunately the prospects are bleak even though the possibilities are

numerous. A great setback to the NPT is the refusal of 10-12 significant non-NPT countries to join the NPT and reverse their current policies. The proposals of international fuel-cycle and enrichment centres, bank of nuclear materials and international plutonium system have all fallen on barren ground.

As I discussed in my earlier article in this newspaper some time back, perhaps the better prospects lie in regional initiatives. The examples of the Treaty of Tlatelolco in South America and the recent creation of the South Pacific as a nuclear-weapon free zone are highly commendable. Pakistan has been a staunch supporter of such a zone in South Asia and her proposal for it has been repeatedly approved by the UN. Unfortunately, contrary to all the rhetoric and holier-than-thou statements by the Indians, they have not responded positively to this highly practical and useful proposal. It would save both the countries from an unnecessary and suicidal arms race.

Furthermore, the creation of a nuclear-free zone in the Middle East is also imperative. For all practical purposes Israel has become a nuclear power, thanks to the connivance of, and actual help from, some of the western countries. It may take a few years before the Arabs could manufacture nuclear weapons as nuclear technology is expanding, is no secret and literature on how to make nuclear weapons is in abundance. The same holds good for South Africa. Unless and until both Israel and South Africa are forced to put all their nuclear facilities under IAEA safeguards, the future of the NPT is doomed.

It is believed that a positive contribution to the NPT would be a further expansion of the IAEA's aid to the developing countries in the form of promoting the use of nuclear science techniques in power production, in agriculture, in medicine, and in hydrology. This could bridge the wide gap referred to by Mrs. Alva Myrdal, as far as the peaceful uses of nuclear technology are concerned.

The only consolation we can have is the record of the NPT in the past 13 years. Except the blatant violation of the world trust by India, who cheated both the USA and Canada, and exploded her first nuclear device in 1974, international efforts to slow or halt nuclear proliferation have had reasonable success. It is eleven years since India detonated her nuclear bomb. Despite frequent cries of alarm in recent years, especially aimed at Pakistan, Libya, Iraq and Argentina, there was in fact no

overt proliferation and if the threat to our beautiful world looks credible it is only due to the arms race unleashed by the nuclear-weapon states themselves.

In the light of the preceding arguments, it would be a major positive step on the part of the nuclear-weapon states to stop the nuclear arms race (the foremost obligation under Article VI of the NPT) i.e. a halt to the manufacturing, testing and deployment of these weapons. Hence a Comprehensive Test Ban Treaty will be a most important first step towards ending the nuclear arms race. This step is both feasible and the most easily attainable measure to halt both the horizontal and vertical proliferation of nuclear weapons. The Third World would consider a Comprehensive Test Ban Treaty as a definite proof of intention of the super-powers and their willingness to comply with their obligation under Art. VI of the NPT. In the view of the Secretary General of the UN, "It is of direct importance to the future of humanity to end all nuclear explosions. No other means would be as effective in halting the further development of nuclear weapons." Let us hope the Third Review Conference is able to bring home these points and takes positive and concrete steps towards global disarmament.

About the future of the NPT, Rodney Jones of the USA says that the number of countries comprising the official nuclear club would change drastically at any time. The problem countries, according to him, are creeping to the edge. There are only five now (he is omitting India, though India is a nuclear-weapon state) and if there are suddenly two more, that is a very rapid break out. If more countries go nuclear and get away with it and there is a new respect for them, or their influence rises, there is a real danger of it becoming like a dam that breaks and you have a flood he says.

Bernard Feld, the US Physicist who helped produce Little Boy and Fat Man, in a report to the Congress to mark the 40th anniversary of the nuclear bombing of the Japanese cities, says that the survival of the world so far is no guarantee for the future. He says, "Indeed, the indications are that the dangers of nuclear weapons are increasing year by year, that it is quite likely that a nuclear weapon will again be used in a conflict situation before the end of the century." Let us pray and hope he is wrong. But we must remember that the politicians and those in power at that time had ignored "temporary advantage" (from using

nuclear weapons against Japan would result in perpetual menace to human security. The advice given subsequently by Szilard, Franck, Einstein etc., was also ignored. Scientists and engineers think rationally and their advice can play a positive role, but unfortunately, because of their dedication to work and isolation they have not been able to influence the course of the politicians with the result that we are now at the brink of a doomsday.

CONSEQUENCES OF A NUCLEAR WAR:

The direct consequence of the failure of the non-proliferation regime will be an unabated spread, of nuclear weapons and, as Bernard Feld fears, the use of a nuclear weapon before the end of the century is a real possibility. Those participating in the Third Review Conference carry a grave responsibility on their shoulders as their failure to reach a consensus towards non-proliferation and total disarmament would directly contribute to a nuclear armageddon. The nuclear weapons of today make the bombs dropped on Hiroshima and Nagasaki look like children's fireworks. A single present day hydrogen bomb is more than 1000 times more powerful. Recent estimates by the World Health Organisation (WHO) have concluded that about 1 billion (1000 million) people would be annihilated outright and a billion severely injured if only 1/3rd of the estimated present stocks of nuclear weapons is utilised. There are about 50000 warheads stored in the nuclear-weapon states and that is enough to kill each and every individual on this earth and to blast this beautiful world of ours many times over. It has now been realised that those who will survive the nuclear war will perish in a nuclear winter brought on by huge amounts of dust and soot which will stop the sun's rays from reaching the earth. Let us hope that both the nuclear-weapon states and the threshold countries realise that there is no secret about the atom bomb any more and there is no defence against it. If they allow this opportunity, the Third Review Conference, to squander away, they will be responsible for the inevitable nuclear holocaust, and as Bernard Feld has predicted, that day is much nearer than the nuclear-weapon states are realising. The looming danger of a nuclear holocaust is being ignored in the same way as people have been ignoring traffic accidents, starvation etc. The person sitting at the steering wheel never accepts or believes that there is a great probability of his getting killed in an accident. And hundreds

of people do get killed every day, either due to their own fault or due to the faults of others. Seeing thousands of starving people never makes you realise that you could meet the same fate some day. And these things have happened and we have all seen them happening. The Second World War brought unimaginable miseries to millions of people. It was only a conventional war. A nuclear war will leave no help, no hope and no civilisation. Let us hope that the nuclear-weapon states realise this and play

their part of the bargain of Art. VI of the NPT to reduce and eventually to destroy these monstrous tools of destruction. Never before has the need of such an action been felt so much as now. It is getting too late, if it is not already too late. If there is no agreement this time, the NPT is doomed and a vicious new second cycle of proliferation will start which will make the predictable nuclear holocaust a reality.

PAKISTAN AND THE NPT: Since the creation of the NPT in 1968, Pakistan has been one of its staunch supporters. Pakistan voted for the NPT in the UN in 1968. However, because of its grossly discriminating nature, Pakistan has not officially signed it. While India refrained from signing it as a long-range strategy to explode a nuclear bomb in 1974, Pakistan has all along supported it and has not indulged in any attempts to sabotage it. As a very useful and concrete step Pakistan launched a proposal many years ago to declare South Asia a nuclear-weapon-free zone and the declaration by the regional states to officially renounce the manufacture and use of these monstrous tools of destruction. Notwithstanding the general discriminating charter of the NPT, the Government of Pakistan offered to India many concrete suggestions to save the sub-continent from a mad nuclear race. These proposals have been put forward to India by no less a person than the President himself. Summarising all these proposals in a recent interview to Mr. Tom Brokaw of the NBC the President offered to India:

- To declare South Asia a nuclear-weapon-free zone.
- To sign the NPT simultaneously with India.
- To sign a bilateral nuclear non-proliferation treaty.
- To agree to an international inspection team to visit and inspect each and every nuclear facility in each of the two countries and
- To renounce the use of nuclear weapons.

Unfortunately, and understandably, the Indians do not accept any

one of these sincere and straight forward proposals. The Indian scientists and politicians are engaged in misleading the whole world and are trying to insult the intelligentsia of the world by creating a host of the so-called peaceful nuclear explosion etc. Everybody knows that the so-called peaceful nuclear device incorporates the same basic technology as a nuclear bomb. It is most unfortunate that, following the tradition laid down by Gandhi, Nehru & Indira Gandhi, the Indian Prime Minister is also engaged in misleading the whole world. A country that exploded a nuclear bomb, 11

years ago and is engaged in clandestine production and stockpiling of huge quantities of plutonium in unsafeguarded facilities is trying to mislead the world in the role of a peace-lover. Notwithstanding his recent entry into public life and lack of understanding of world affairs, Mr. Rajiv Gandhi must realise that those who indulge in misleading the world and act stupidly are taken for fools. He must not allow himself to be projected as an ignorant person by following the advice of crooks. It would be more appropriate for Mr. Rajiv Gandhi to act and behave as a Prime Minister of 800 million people, and he should not indulge in mud-slinging on Pakistan's peaceful nuclear programme. If he has any doubts about our peaceful programme, and is sure of his own position, he should accept the challenge thrown by our President and sign the NPT simultaneously or open all the nuclear facilities to international inspection teams. Naturally, Pakistan cannot take a unilateral action, as it will mean a sure end to our existence as an independent and sovereign state. India in keeping with its aggressive policy (East Pakistan, Kashmir, Junagarh, Manavadar, Hyderabad, Goa, Sikkim) will definitely indulge in nuclear blackmail against us and will not hesitate to deliver a mortal blow to our beloved country. No government can write the death warrant of her own country. At least we would not.

Coming back to Pakistan and the NPT, Pakistan is attending the Third Review Conference as an observer. Pakistan refrained from attending the First and the Second Review Conferences due to the hypocritical attitude of the superpowers. Pakistan's decision to attend the Third Review Conference for the first time demonstrates its consistent support for the NPT's central obligation not to manufacture or otherwise acquire nuclear explosives, peaceful or otherwise. It also shows its desire to

evoke, at the global and regional levels, effective and non-discriminatory arrangements to prevent this proliferation of nuclear weapons.

Let us pray and hope, for the sake of humanity and for this beautiful world of ours, that the Third Review Conference evolves a general consensus and agree upon concrete and substantial measures to reduce, and then to ban, these monstrous tools of destruction.

CSO: 5100/4700

PAKISTAN

BRIEFS

REPORT ON KAHUTA DENIED--The minister of state for foreign affairs Mr Zain Noorani, speaking on the adjournment motions of Sheykh Rashid Ahmed and Mian Mohammad Zaman [in the National Assembly on 30 September] said any attack on Kahuta [site of uranium enrichment plant near Islamabad] would be considered as an act of war on Pakistan and will be dealt with accordingly. He assured the house that not only will Pakistan take all necessary measures to defend itself if any act of aggression is committed against the country, but will certainly have to retaliate in a manner that would end the dreams of any would be adventurer who tries to harm Pakistan. He said Pakistan does not want any conflict. On the contrary, it seeks mutually beneficial cooperation with all its neighbors, in particular India. Referring to press reports about Indian Air Force planes having flown over Kahuta, he said there is no factual basis to that report. The members who did not press their adjournment motion after the statement by the minister of state sought to bring in for discussion the reports that Indian Air Force was carrying out exercises to drop atom bombs and that Indian Air Force planes had overflown Kahuta. [Text] [Karachi Domestic Service in English 1703 GMT 30 Sep 85 BK]

OFFICIAL REITERATES NUCLEAR POSITION--Islamabad, Sep 25--The Chairman of Pakistan Atomic Energy Commission [PAEC], Mr Munir Ahmed, has expressed Pakistan's readiness to enter into high-level consultations to consider positive proposals, ensuring establishment of nuclear weapon-free-zone in South Asia. Addressing the 29th Annual General Conference of 112-nation International Atomic Energy Agency [IAEA] at Vienna on September 24, he said that Pakistan has consistently endorsed measures for strengthening the international nuclear non-proliferation regime. Elaborating the salient features of PAEC plans and achievements in different fields during the past year, Mr Munir Ahmad Khan said, "Pakistan is continuing with the development of its peaceful nuclear energy programme in spite of the unilateral embargoes and restrictions. Our scientists and engineers have been able to operate KANUPP [Karachi Nuclear Power Plant] successfully. We are going ahead with the planning of new nuclear power reactors. We believe that nuclear power holds the key to our future economic development and presents the only viable alternative for overcoming the critical power shortages being experienced in the country. Use of nuclear techniques in agriculture has already made significant impact on our economy. Recent increase in the output of cotton crop is based partly on the use of a new mutant developed through nuclear techniques. We are proceeding with our first gamma irradiation plant for sterilization of medical, and agricultural products. [quotes as published] [Excerpts] [Karachi DAWN in English 26 Sep 85 p 10 GF]

'PEACEFUL USE' PLEDGE REITERATED--Pakistan has reiterated at the 29th general conference of the International Atomic Energy Authority in Vienna that it is committed to peaceful uses of atomic energy. Addressing the conference, the chairman of the Pakistan Atomic Energy Commission, Mr Munir Ahmed Khan, said that Pakistan's future economic development depends on atomic energy, as it is the only effective means to meet the acute shortage of power in the country. Application of atomic methods in agriculture also have had a significant and positive impact on the country's economy. [Text] [Karachi Domestic Service in Urdu 1500 GMT 25 Sep 85 BK]

ENVOY REITERATES STAND--The Pakistani ambassador to India, Humayan Khan, has said the objective of the Pakistani atomic energy program is not to make atomic explosions or to prepare plutonium for atomic weapons. In an interview with a prominent Andhra Pradesh daily, DECCAN CHRONICLE, he said that Pakistan's atomic program is for peaceful purposes, we have no intention of producing high-grade uranium for military purpose. He said his country's program in the field of atomic technology is reasonable. The Karachi reactor produces electricity, whereas a very small research reactor in Islamabad has been operating for the past 20 years in research for peaceful uses of atomic energy in the fields of medicine and agriculture, resulting in a small practical benefit. [Text] [Karachi Domestic Service in Urdu 0200 GMT 6 Oct 85]

CSO: 5100/4701

SOUTH AFRICA

ESCOM SEARCH FOR NUCLEAR POWER STATIONS REPORTED

Starts in October

Port Elizabeth EVENING POST in English 11 Sep 85 p 3

[Article by Martin Strydom]

[Text]

AN R8-million country-wide search for future nuclear power station sites will begin in areas west and east of Port Elizabeth next month, Escom said today.

The search will start in the area west of PE and takes in the stretch of coast from Cape St Francis to the Tsitsikamma River.

The second area will be an area east of PE, from the Sundays River mouth to Cape Padrone.

The sites, which will extend nine kilometres inland and nine kilometres into the sea, are two of 19 coastal sites isolated for investigation by Escom.

The announcement was made at a Press confer-

ence in PE.

Mr Lood Rothman, assistant senior general manager of Escom, said: "We must stress that no decision has yet been taken to build a nuclear power station."

He said it was clear that at some stage in the future more would have to be built and "basic prudence dictates that viable sites should be identified and secured as early as possible".

"A particular site within the finally selected area will only be chosen when the decision to build the nuclear power station is taken," he said.

After such a decision is taken, it will take about 13 years to build a nuclear

power station and bring it on stream.

The 19 areas, which have been isolated after an initial countrywide survey, are to be subjected to more detailed examination, including exploration, drilling and exhaustive examination of environmental implications.

Dr Dennis Toens, head of the geological section of the Atomic Energy Corporation, said they would be opening an office in Humansdorp next month.

"We will be working south of Humansdorp initially," he said.

Investigations of the various areas should take up to two years and

Escom said it would keep the public informed of general progress.

A team of Escom executives will also be discussing the project with various individuals and groups in the Eastern Cape during the next two weeks.

Mr Louis Koch, chief director of the East Cape Development Board, who chaired the meeting, said that if the tests were positive he would support the building of a nuclear power station in Region D.

● Mr Rothman said in a statement that Escom did not believe that the recent limited sanctions imposed on South Africa by the United States would hamper its plans.

Further Details

Johannesburg BUSINESS DAY in English 12 Sep 85 p 3

[Text]

AN R8m, six-year search for South Africa's future nuclear power station sites begins next month. The first two coastal candidate areas to be fully investigated are to the east and west of Port Elizabeth.

They are among 19 coastal areas, already

selected as "candidate areas", which are to be subjected to more detailed on-the-spot examination, says Escom.

The now completed initial work, costing R250 000, involved identifying candidate regions and then segmenting these into areas.

It is part of Escom's overall programme for the identification of potential sites for power stations, whether coal-fired, hydro or nuclear.

"We are extremely conscious of the concerns the public has about nuclear power stations and radioactivity, and this will at all times be borne in mind during our investigation," says Escom's senior general manager Ian McRae.

He stresses that no decision has yet been taken to build a nuclear power station. More that it is clear that at some stage in the future more will have to be built.

"Basic prudence dictated viable sites should be identified and secured as early as possible, so that both government and local planning authorities can take them into account and avoid conflict over land-use".

McRae says Escom wishes, where possible, to avoid placing a further burden on inland water resources and, as at Koeberg, sea-water can be used for cooling. However, candidate areas inland may also be investi-

gated.

For the moment, large areas rather than specific sites are the target. "A particular site within the finally selected area will only be chosen when the decision to build the nuclear power station is taken."

McRae says he sees nuclear power making an important contribution to South Africa's electricity generation in the next century.

Because of the long time construction takes, Escom will have to commit itself within the next three to five years to the incorporation of another nuclear station.

Investigation of a particular area should take about two years, and although the evaluation report will only be available about six months after that, the public will regularly be kept informed of general progress.

McRae's statement yesterday about its sites programme makes no mention of where South Africa is going to get the technology, nuclear or conventional for the new stations.

CSO: 5100/45

21 October 1985

SOUTH AFRICA

ESCOM DECISION ON NUCLEAR WASTE AWAITED

Johannesburg BUSINESS DAY in English 10 Sep 85 p 5

[Article by Chris Cairncross]

[Text]

TIME is running out for the Electricity Supply Commission (Eskom). It will have to make an important and highly emotive decision soon on what it is going to do with the high-level nuclear waste (HLW) created by Koeberg.

This is mainly in the form of spent fuel elements. The first of these will have to be dealt with early next year when the power station's number one reactor has to be refuelled.

Koeberg officials estimate that that the reactor will create about 2m³-3m³ of HLW.

Additionally, 400 000 l of intermediate and low-level nuclear waste will have to be handled.

A decision has already been taken to store this waste in concrete drums underground at Vaalputs, in a remote area of the northwest Cape.

The problem remains is what to do with the HLW, which requires more special treatment.

In accordance with world-wide practice, the spent fuel cells are usually kept

submerged in pools of water, which form an effective barrier between the environment and the high-level radiation.

Initially, this is probably the option Eskom will go for. But a suitable site has yet to be selected. Koeberg could be used temporarily, according to officials. There is also a possibility of storing it. But special arrangements would have to be made, probably by blasting out deep cavities in the granite to create fuel pools.

Ultimately, the decision hinges on whether or not SA chooses to go the route of reprocessing the spent fuel to extract plutonium and other forms of HLW.

This is a remote possibility at this stage. We are told the country has the technical capability of building and operating a reprocessing plant, but it not viable economically.

CSO: 5100/45

SOUTH AFRICA

BRIEFS

NEW NUCLEAR PLANTS' SITES CONSIDERED—ESCOM [Electricity Supply Commission] is to begin looking for possible sites in South Africa for future nuclear power stations next month. The assistant senior general manager of ESCOM, Mr (Leward Rothman), announced in Port Elizabeth that 19 coastal areas had been identified as possible sites. The first two areas that would be investigated lay between the Sundays River South and Cape Padrone, and between the Tsitsikamma River mouth and Cape St Francis in the Eastern Cape. Mr (Rothman) said no decision had been taken yet to build a nuclear power station, and it could take up to 15 years before a power station would be operational. The investigation would cost 8 million rand and take 6 years. [Text] [Johannesburg Domestic Service in English 0900 GMT 12 Sep 85 MB]

NUCLEAR TECHNOLOGY LEVEL OFFICIAL COMMENTS—The executive general manager, Nuclear Fuse, of the Atomic Energy Corporation, Dr Willy Grant, says nuclear technology in South Africa has developed to such a level that there is no need for the country to be prescribed to over the application of its technology of uranium. [Text] [Johannesburg Domestic Service in English 1700 GMT 13 Sep 85 MB]

KOEBERG NUCLEAR PLANT PRODUCES 'MAXIMUM'—The Koeberg power station near Cape Town produced its maximum power capacity for the first time when all units operated at full output this weekend. During this peak period, 1,842 megawatts of electricity was fed into the national grid. A spokesman for ESCOM [Electricity Supply Commission] said, however, that this was not permanent, as the second unit is still being tested, and will only be fully commissioned later this year. Since Koeberg began operating in April 1984, 6,000 million kilowatt hours of electricity has been generated. [Text] [Johannesburg Domestic Service in Afrikaans 1400 GMT 16 Sep 85 MB]

FORMER OFFICIAL ON BOMB PRODUCTION—South Africa could build two atom bombs a year from nuclear material produced by its secret Valindaba uranium enrichment plant, says a former assistant director-general of the International Atomic Energy Agency (IAEA). The pilot plant, near Hartbeespoort Dam, can make enough highly-enriched uranium for such bombs or other explosive devices in total secrecy because no inspectors of the Vienna-based agency are allowed into the plant, said Mr David Fischer, now retired but still a consultant to the IAEA and author of books on the spread of nuclear weapons. Mr Fischer, writing in the Anglo-American Corporation magazine OPTIMA says South Africa's capability to make atom bombs is seen by many, "especially African nations, as a means of intimidation". [Text] [Johannesburg THE STAR in English 14 Sep 85 p 5 MB]

UGANDA

BRIEFS

RADIOACTIVE MATERIAL 'TAKEN'—The public is informed that after the recent troubles in Kawanda research station [scene of recent attack by National Resistance Army], the chemistry [as heard] stores were broken into and some research materials were either taken away or tampered with. The materials can be very very dangerous to the public, especially the radioactive substances which are believed to have been so [as heard] affected. Anyone who might have taken, or come across, anything suspicious, either in bottles, packages, or containers, should report to the nearest police or authority. Do not open the package or transport the materials. Staff or anyone are warned not to approach the soil science chemistry stores at the station. Efforts have been taken to survey for radioactivities in the area. [Text] [Kampala Domestic Service in English 1735 GMT 19 Sep 85 EA]

CSO: 5100/46

USSR

MOSCOW COMMENTS ON ARMACOST, FORTIER VISIT TO PAKISTAN

LD201512 Moscow TASS in English 1459 GMT 20 Sep 85

[Text] New Delhi September 20 TASS--The visit paid to Islamabad by Michael Armacost, U.S. under secretary of state for political affairs, and Donald Fortier, deputy assistant to the U.S. President for national security affairs, has marked another step forward in consolidating the aggressive American-Pakistani alliance.

The Washington envoys met with President Ziaul Haq, Prime Minister and Defense Minister Mohammed Khan Junejo and other high-ranking Pakistani officials.

Armacost said in an interview with Pakistani television that attention during the talks had been concentrated on Afghanistan where the interests of Pakistan and the United States were parallel.

The Indian mass media note that the United States has assured the Afghan counter-revolutionaries of late through its representatives, in particular former U.S. President Richard Nixon who has visited Islamabad, of its invariable support and promised the bandits' chieftains still bigger financial and military aid in future. Seeking to please his Washington partners, the head of the Pakistani regime said that the Afghan counter-revolutionaries' war on their own country was also Pakistan's war.

Speaking to newsmen in Islamabad, Armacost summed American-Pakistani relations up as very good. He said the U.S. Administration contemplated continuing military and economic aid to Pakistan after 1987, that is after the expiry of the term of the military and economic deal worth 3.2 billion dollars now in effect between the two countries.

The under secretary of state effectively admitted in Islamabad that the Pakistani nuclear program, which is helped, according to press reports, by many American and other western firms, aimed to develop nuclear weapons. He appeared to be justifying Islamabad's nuclear ambitions when he said that the issue of the non-proliferation of nuclear weapons to South Asia should be solved on a regional basis, by way of talks between Pakistan and India. In this connection the official spokesman for the Indian Foreign Ministry stressed categorically that his country was firmly committed to the policy of renouncing the production of nuclear weapons. The problem, he said, was that of preventing the appearance of nuclear weapons in Pakistan. The United States, the spokesman added, could facilitate the achievement of this goal, by using its influence on Islamabad.

USSR

BRIEFS

EUREKA TECHNOLOGY USES EXPLORED--According to the Soviet newspaper SOTSIALISTICHESKAYA INDUSTRIYA the French space program Eureka has more to it than its stated objective. This program was put forward after the adoption in the United States of President Reagan's star wars plan. The paper says project Eureka is by no means an alternative to Washington's so-called Strategic Defense Initiative aimed at militarizing space. It has been reported that the West European firms involved in the project will develop not only civilian technology but military technology as well. A number of French, British and West German companies are planning to conclude contracts with the American Defense Department and take a direct part in the star wars program. [Text] [Moscow World Service in English 1100 GMT 31 Aug 85]

CSO: 5100/2

FRANCE

LE MONDE VIEWS MITTERRAND SOUTH PACIFIC VISIT

PM171039 Paris LE MONDE in French 17 Sep 85 p 1

[Editorial: "No Enemies"]

[Text] Although the misfortune of Ariane and Concorde made it difficult to see Mr Mitterrand's trip as a triumphant illustration of French and European technology, it was seen by Canberra and Wellington, not to mention several small states in the region, as a show of strength and even a provocation.

Mr Mitterrand could have decided to go no further than this demonstration. That would have been to accept the idea of relations between Paris and this important part of the world should henceforth be characterized by constant tension. Of course, neither New Zealand nor Australia, still less Vanuatu of the Kingdom of Tonga or the Greenpeace organization, is technically capable of preventing France from pursuing its nuclear tests. Nor can they force it to go faster or further than it wishes in changing New Caledonia's status. But at a time when the Pacific is taking on considerable political, commercial, and strategic importance France is in danger of being permanently excluded from a crucially important sphere of diplomatic action.

The head of state therefore did not merely dispel any ambiguity about France's intentions in the region (an ambiguity which the plans for New Caledonia may have aroused for a time among our Pacific "neighbors"). He chose to ease tension to some extent by proposing to those countries a few more positive measures than a mere reminder of the need to "respect France's rights."

First, by suggesting to their heads of state and government that they should come and discover on the spot, as a group of Australian and New Zealand experts was able to do in 1983, that the underground tests pose no real threat to the environment. It is true that this offer has already been rejected by Mr Lange and Mr Hawke, the two men most concerned; the New Zealand Australian prime ministers are not anxious to fall into what they regard as a trap intended to gain their backing for the French nuclear tests.

Second, France is going to try to develop its presence in the South Pacific in the cultural sphere, by offering the local population the chance of pursuing "higher education conducted in French" at a university center to be built for this purpose and by launching other forms of cooperation. It is not certain that the resolutely English-speaking New Zealanders and Australians will be very

enthusiastic about this attempt at seduction; but it is addressed mainly at the small island states which are subject to de facto Anglicization and Americanization.

"France has no enemies in the South Pacific," Mr Mitterrand asserted. Not even, if I understand him correctly, those which he described in Mururoa as possible "adversaries" and which--especially New Zealand--took that very badly. It remains for him to find friends in the region again.

CSO: 5100/2580

NETHERLANDS

NUCLEAR FUSION PROJECT USING BALL LIGHTNING

Rotterdam HET VRIJE VOLK in Dutch 5 Sep 85 p 9

[Article by Onno Buiter: "Convectron Achieves Milestone: Ball Lightning: 'First Nuclear Fusion Reactor Ready in 1992'"]

[Text] Rotterdam--Convectron N.V. in Rotterdam, which is attempting to develop a nuclear fusion reactor through generating ball lightning, is reporting its first success. In recent months, the first ball lightning rolled through the laboratory in the Waalhaven section of Rotterdam via a short circuit in a set of batteries from an old submarine.

The two directors of Convectron, astrophysicist Dr C. G. Dijkhuis and chemist Dr K. W. Wevers, are now on the verge of generating full-blown ball lightning with another set of extra batteries from a second old submarine. They are convinced that within ball lightning, light atoms fuse together into heavy atoms, whereby a large quantity of energy is released.

They hope to keep the ball lightning "in action" inside a reactor vessel by adding heavy water (deuterium). In this way, a continuous process of converting hydrogen into heavier helium would come about, through which energy is released in the form of high-speed neutrons. "The Convectron reactor could be in existence within 5 years," say Dijkhuis and Wevers, who have been working on the project for a good 2 years. "The first true nuclear fusion reactor can then be in operation in 1992, serviceable for a whole city or for part of one."

Ball lightning is a fireball that is sometimes observed during severe storms. Its normal longevity is one to three seconds. The ball floats through the air, rolls across the ground and is also capable of bouncing. Its size ranges from several centimeters to the size of a soccer ball.

Ball lightning is also observed in airplanes flying through severe bad weather. It also occurs in submarines through short circuits in large batteries, batteries with which Convectron has now set out to work.

Scientists have never figured out this natural phenomenon, but Dijkhuis and Wevers think that energy can even be extracted from it.

Optimism

In their optimism, Dijkhuis and Wevers have even commissioned artist Rudolf Das to sketch an exploded drawing of a power plant such as this.

"A power plant like this would have to work in the following way: ball lightning is 'ignited' in a series of reactor vessels, whereby the heavy water constitutes the fuel. The radiating heat warms up a water jacket, which propels turbines in the form of steam. The helium that is released is carried off," Dijkhuis says. "A ball of lightning the size of a soccer ball produces one megawatt of power.

"The technology and the feasibility are rather simple, so that this is also inexpensive," he believes. "The cost of ball lightning electricity amounts to only 20 to 40 percent of that of coal or nuclear energy. This is because heavy water is boundlessly present everywhere on earth. In addition, there are scarcely any environmental problems with nuclear fusion. The radioactive radiation released is minimal, a fraction of that which is released in its counterpart, nuclear fission in nuclear power plants. And it is easy to keep under control. It cannot run wild and cannot explode."

According to the two scientists, a period of 5 years for the development of a nuclear fusion reactor is a reasonable amount of time. "It is certainly not nonsense. The first nuclear fission reactor was realized 3 years after they understood how to sustain a uranium fission cycle. Now that we understand how ball lightning works, we are looking at things within the timeframe set out for us," Dijkhuis says.

However, the problem is money. Convection receives no subsidies from the government and has to make do with venture capital. A first issue of shares in 1983 and 1984 resulted in capital of about 600,000 guilders. "We can go no further with that," Dijkhuis says. "We need extra batteries and have to have a better switch built in order to make the ball lightning discharge more quickly. This is why we are now issuing a new series of shares."

Lottery

Co-director Klijn, a businessman from Kaatsheuvel in Brabant, takes care of the financial side of business. He says, "Shareholders should look at it as a lottery. If this project is successful, they all win the grand prize, because then their shares will be of astronomical value. As the project progresses, we will put out shares at a higher rate, because those who were there from the outset ran a greater risk. Compare it to a football pool. Now that some progress has been recorded, there are in fact some games that have been announced and checked off. It is becoming less of a gamble."

Dijkhuis mentions as the cause of the financial problems the great scepticism with which his ideas about ball lightning have been received by other scientists. Dijkhuis' graduation thesis at Stanford University in the United States was on ball lightning. This thesis was initially rejected by the dean of large-scale nuclear fusion research in the Netherlands, Professor Dr C. M.

Braams, who stated in 1983 that his line of thought conflicted on all points and that he was a charlatan.

In the meantime, Indian experts discovered that similar nuclear fusions have indeed taken place in some lightning, via heavy water. However, the Indian scientists were unable to explain this.

Dijkhuis: "But with my theory I can explain it. Ball lightning in nature normally lasts from one to three seconds. Thus far in our laboratory, we have been able to keep it going for one second. It was 10 centimeters in diameter."

But there have also been observations of ball lightning during severe storms that existed for minutes. The reason is simple: there is enough heavy water in a damp setting to keep the process going. One out of every 3000 water molecules is a heavy water molecule.

Binding Force

According to Dijkhuis' theory, ball lightning is a hot, ionized (electrically charged) gas that should have the natural tendency to fall apart, but which does not do so. Whirls of energy pass through each other like threads and provide for a strong binding force. At a strength of current in excess of 150,000 amperes, which Convectron is capable of achieving at its laboratory facilities, the particles in the gas are hurled through the electrical fields at such high speeds that they collide.

Nuclear fusion occurs during these collisions: lighter atoms fuse together into heavy nuclei, the same process that happens in the sun under the influence of gravity. The amount of water vapor found in the ball lightning contains enough heavy water to set the nuclear fusion process in motion and to sustain it for some time. Two-thirds of the energy that is released flies away and is usable as energy. One-third keeps the process going. If no new water is added, the process stops automatically.

"In a reactor vessel, we are planning to hold the ball lightning in position with an electrical field and the introduction of gas enriched with heavy water," Dijkhuis says.

Dijkhuis explains that the scepticism of other scientists towards his ball lightning is due to the fact that many have been thinking about nuclear fusion processes for 30 years without much progress. Up to now, it has been assumed that nuclear fusion would not be applicable in a very large-scale reactor until the year 2010 at the earliest.

Moreover, bottlenecks are arising from the high investments and the breeding of tritium, an even heavier hydrogen atom than deuterium that does not occur in nature. Are Dijkhuis and Wevers making a fool of themselves?

Evidence for Dijkhuis' propositions has yet to be produced. The astrophysicist, an astronomer concerned with the composition of heavenly bodies, thinks that he can provide that evidence if he can keep the ball

lightning going for a longer period of time and if high-speed neutrons and/or helium atoms can then be detected in the reactor vessel.

Convectron has gotten the permission of the institutions involved for its experiments up to that point. As soon as it is a question of actual nuclear fusion, there are other rules that turn up. The company lacks the equipment to measure these things, but it expects that it can borrow the equipment from a technical college.

Thus far, they have borrowed superfast film cameras from the technical college in Delft in order to get pictures of the ball lightning. These cameras make 3,500 pictures a second. Dijkhuis: "Unfortunately, video is unsuitable for us, because the force of the short circuit disrupts the all photography in the immediate vicinity."

Convectron is in addition receiving an interest-free loan from the city of Rotterdam as a "promising beginner," which is necessary to pay the rent for the laboratory in the Waalhaven section of the city.

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